Issuance Date: June 22, 2009
Effective Date: July 1, 2009
Expiration Date: June 30, 2014

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT No. **WA-002918-1**

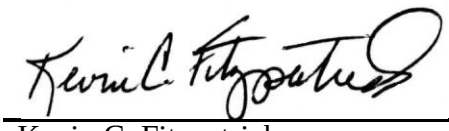
State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

KING COUNTY WASTEWATER TREATMENT DIVISION
King Street Center, KSC-NR-0512
201 South Jackson Street
Seattle, WA 98104-3855

is authorized to discharge in accordance with the Special and General Conditions that follow.

Facility Name	**West Point Wastewater Treatment Plant** (serves combined sewer area)	**Alki Storage and CSO Treatment Plant**	**Carkeek Storage and CSO Treatment Plant**	**Denny/Elliott West Storage and CSO Treatment Plant**	**MLK/Henderson Storage and CSO Treatment Plant**
Plant Address	1400 Utah St. W Seattle, WA 98199	3380 Beach Drive SW Seattle, WA 98116-2616	1201 NW Carkeek Park Road Seattle, WA 98177-4640	545 Elliott Ave W Seattle, WA 98119	Outlet Regulator 9829 42nd Ave S Seattle, WA 98118
Receiving Water	Puget Sound	Puget Sound	Puget Sound	Elliott Bay	Duwamish Waterway
Plant Type	Activated Sludge, Secondary Treatment Plant	Satellite CSO Storage and Treatment Plant	Satellite CSO Storage and Treatment Plant	Satellite CSO Storage and Treatment Plant	Satellite CSO Storage and Treatment Plant
Discharge Location: Latitude Longitude	47° 39' 38.8" N -122° 26' 55.1" W	47° 34' 12.9" N -122° 25' 21.0" W	47° 42' 45.5" N -122° 23' 16.4" W	47° 37' 3.18" N -122° 21' 42.68" W	47° 30' 42.98" N -122° 17' 50.48" W



Kevin C. Fitzpatrick
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3	Discharge Monitoring Report	Monthly	August 20, 2009
S3.E	Noncompliance Notification	As necessary	
S3.E	Shellfish Protection	As necessary	
S4.B	Plans for Maintaining Adequate Capacity	As necessary	
S4.D	Notification of New or Altered Sources	As necessary	
S4.E	Wasteload Assessment	1/permit cycle	June 30, 2013
S5.G.	Operations and Maintenance Manual Update or Review Confirmation Letter	Annually	January 31, 2010
S6.A.4	Pretreatment Report	1/year	March 31, 2010
S6.E	Source Tracking Characterization	1/permit cycle	June 30, 2013
S8	Application for Permit Renewal	1/permit cycle	June 30, 2013
S9	Engineering Document	As necessary	
S10	Effluent Disinfection Evaluation	1/permit cycle	December 1, 2009
S11	Spill Plan	1/permit cycle	September 30, 2009
S12	Receiving Water Characterization - QAPP	1/permit cycle	June 30, 2010
S12	Receiving Water Characterization - Results	1/permit cycle	June 30, 2013
S13.A	Sediment Sampling and Analysis Plan (West Point WWTP)	1/permit cycle	July 1, 2010
S13.B	Sediment Data Report (West Point WWTP)	1/permit cycle	December 31, 2012
S13.C	Source of Toxicity Study	If required, 1/permit cycle	
S14	Outfall Evaluation	1/permit cycle	June 30, 2013
S15.A	Acute Toxicity Effluent Test Results With Permit Renewal Application	2/permit cycle Testing to occur: January 2012 July 2012	June 30, 2013
S15.B	Acute Toxicity Summary Report	1/permit cycle	June 30, 2013
S16.A	Chronic Toxicity Effluent Test Results With Permit Renewal Application	2/permit cycle Testing to occur: April 2012 October 2012	June 30, 2013
S16.B	Chronic Toxicity Summary Report	1/permit cycle	June 30, 2013
S17	Wet Weather Operation Reports	As necessary with monthly DMR submittal.	
S18.B.1	Monthly Combined Sewer Overflow Report	Monthly	August 20, 2009
S18.B.2	Annual Combined Sewer Overflow Report	Annually	July 31, 2009 (for all of previous calendar year)
S18.C	Combined Sewer Overflow Reduction Plan Amendment	At permit renewal	June 30, 2013
S18.D	Flow & Solids Loading Assessment (CSO Treatment Plants)	At permit renewal	June 30, 2013

Permit Section	Submittal	Frequency	First Submittal Date
S18.E	Combined Sewer Overflow Reduction Projects <u>CSO Beaches Projects</u> Submit Facilities Plan Submit Final Plans & Specifications Begin Construction		 December 31, 2010 December 31, 2012 December 31, 2013
S18.I	Receiving Water Characterization – QAPP (CSOs)	1/permit cycle	June 30, 2010
S18.I	Receiving Water Characterization – Results (CSOs)	1/permit cycle	June 30, 2013
S18.J.1	CSO Sediment Quality Summary Report	1/permit cycle	September 1, 2009
S18.J.2	Sediment Sampling and Analysis Plan (CSOs)	If required, 1/permit cycle	If required, December 31, 2010
S18.J.3	Sediment Data Report (CSOs)	If needed, 1/permit cycle	If required, January 1, 2013
S18.K.3	CSO Post-Construction Monitoring Plan	1/permit cycle	July 1, 2010
S18.K.3	CSO Post-Construction Monitoring Data Report	1/permit cycle	August 31, 2012
G1	Notice of Change in Authorization	As necessary	
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	
G7	Notice of Permit Transfer	As necessary	
G10	Duty to Provide Information	As necessary	
G20	Reporting Anticipated Noncompliance	As necessary	
G21	Reporting Other Information	As necessary	
G23	Contract Submittal	As necessary	

SPECIAL CONDITIONS

In this permit, the word "must" denotes an action that is mandatory and is equivalent to the word "shall" used in previous permits.

S1. DISCHARGE LIMITS

A. Effluent Limits for Outfall 001 (West Point Wastewater Treatment Plant)

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge municipal wastewater at the permitted location subject to compliance with the following limits:

EFFLUENT LIMITS [a]: OUTFALL # 001		
Parameter	**Average Monthly [a]**	**Average Weekly [b]**
Carbonaceous Biochemical Oxygen Demand [b] (5-day)	25 mg/L, 44,800 lb/day	40 mg/L, 71,700 lb/day
Total Suspended Solids [b]	30 mg/L, 53,800 lb/day	45 mg/L, 80,700 lb/day
Fecal Coliform Bacteria [c]	200/100 mL	400/100 mL
pH [d]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0	
Parameter	**Average Monthly [a]**	**Maximum Daily [e]**
Total Residual Chlorine	139 µg/L	364 µg/L

[a] Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.

[b] Average weekly discharge limit means the highest allowable average of "daily discharges'" over a calendar week, calculated as the sum of all "daily discharges'" measured during a calendar week divided by the number of "daily discharges'" measured during that week. See footnote [c] for fecal coliform calculations.

During *May through October*, the average monthly effluent concentration for **$CBOD_5$** must not exceed 25 mg/L or 15 percent of the respective monthly average influent concentrations, whichever is more stringent.

During *November through April*, the average monthly effluent concentration for **$CBOD_5$** must not exceed 25 mg/L or 20 percent of the respective monthly average influent concentrations, whichever is more stringent.

During *May through October*, the average monthly effluent concentration for **TSS** must not exceed 30 mg/L or 15 percent of the respective monthly average influent concentrations, whichever is more stringent.

During *November through April*, the average monthly effluent concentration for **TSS** must not exceed 30 mg/L or 20 percent of the respective monthly average influent concentrations, whichever is more stringent.

[c] To calculate the average monthly and average weekly values for fecal coliform, you must use the geometric mean. Ecology gives directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators,* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

[d] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[e] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day. This does not apply to pH.

B. Effluent Limits for Outfall 051 (Alki CSO Treatment Plant)

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated combined sewer overflows at the permitted location subject to compliance with the following limits. Discharges from this outfall are prohibited except as a result of a precipitation event.

EFFLUENT LIMITS: OUTFALL # 051			
Parameter	**Discharge Limits (Monthly)**	**Discharge Limits [a] (Annual Average)**	**Discharge Limits [b] (Long-Term Average)**
Total Suspended Solids Removal Efficiency [c]	Report	Equal to or greater than 50% removal of influent TSS	Not Applicable (NA)
Fecal Coliform Bacteria [f]	400/100 mL	Report	NA
Settleable Solids	1.9 mL/L/hr(Maximum Allowable Per Event)	0.3 mL/L/hr	NA
pH [e]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0		
Number of Discharge Events	Report	Report	29 events/year
Discharge Volume	Report	Report	108 million gallons (MG) per year

Parameter	**Average Monthly**	**Maximum Daily Average [d]**
Total Residual Chlorine	NA	234 µg/L

[a] The yearly limits will be calculated using per-event data points. Data must be collected and reported on a calendar year basis.

[b] Long-term average will be calculated using data collected over a full permit cycle. Data must be collected and reported for the period of the permit cycle prior to permit renewal.

[c] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Facility and then permanently removed at the West Point Treatment Plant. The reported daily average(s) of TSS% removal efficiency at West Point WWTP, corresponding to the event, must be used for calculating the total removal efficiency for the CSO Treatment Facility.
Note: While % TSS removal is reported on a monthly basis, compliance is based on the yearly average as reported in the annual CSO report as required in S18.

[d] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day. This does not apply to pH.

[e] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[f] To calculate the average monthly value for fecal coliform, you must use the geometric mean for the day(s) in which a discharge(s) occur. Do not include non-discharge days in the calculation. Ecology gives directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators,* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

C. Effluent Limits for Outfall 046 (Carkeek CSO Treatment Plant)

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated combined sewer overflows at the permitted location subject to compliance with the following limits. Discharges from this outfall are prohibited except as a result of a precipitation event.

EFFLUENT LIMITS: OUTFALL # 046			
Parameter	**Discharge Limits (Monthly)**	**Discharge Limits [a] (Annual Average)**	**Discharge Limits [b] (Long-Term Average)**
Total Suspended Solids Removal Efficiency [c]	Report	Equal to or greater than 50% removal of influent TSS	Not Applicable (NA)
Fecal Coliform Bacteria [f]	400/100 mL	Report	NA
Settleable Solids	1.9 mL/L/hr(Maximum Allowable Per Event)	0.3 mL/L/hr	NA
pH [e]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0		
Number of Discharge Events	Report	Report	10 events/year
Discharge Volume	Report	Report	46 million gallons (MG) per year

Parameter	**Average Monthly**	**Maximum Daily Average [d]**
Total Residual Chlorine	NA	490 µg/L

[a] The yearly limits will be calculated using per-event data points. Data must be collected and reported on a calendar year basis.

[b] Long-term average will be calculated using data collected over a full permit cycle. Data must be collected and reported for the period of the permit cycle prior to permit renewal.

[c] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Facility and then permanently removed at the West Point Treatment Plant. The reported daily average(s) of TSS% removal efficiency at West Point WWTP, corresponding to the event, must be used for calculating the total removal efficiency for the CSO Treatment Facility.
Note: While % TSS removal is reported on a monthly basis, compliance is based on the yearly average as reported in the annual CSO report as required in S18.

[d] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

[e] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[f] To calculate the average monthly value for fecal coliform, you must use the geometric mean for the day(s) in which a discharge(s) occur. Do not include non-discharge days in the calculation. Ecology gives directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators,* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

D. Effluent Limits for Outfall 027b (Elliott West CSO Treatment Plant)

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated combined sewer overflows at the permitted location subject to compliance with the following limits. Discharges from this outfall are prohibited except as a result of a precipitation event.

The interim limits apply from July 1, 2009 through May 31, 2011.

EFFLUENT LIMITS: OUTFALL # 027B			
Parameter	**Discharge Limits (Monthly)**	**Discharge Limits [a] (Annual Average)**	**Discharge Limits [b] (Long-Term Average)**
Total Suspended Solids Removal Efficiency [c]	Report	Equal to or greater than 50% removal of influent TSS	Not Applicable (NA)
Fecal Coliform Bacteria [f]	400/100 mL	Report	NA
Settleable Solids	1.9 mL/L/hr (Maximum Allowable Per Event)	0.3 mL/L/hr	NA
pH [e]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0.		
Number of Discharge Events	Report	Report	NA
Discharge Volume	Report	Report	NA

Parameter	**Average Monthly**	**Maximum Daily Average [d]**
Total Residual Chlorine	NA	104 µg/L

[a] The yearly limits will be calculated using per-event data points. Data must be collected and reported on a calendar year basis.

[b] Long-term average will be calculated using data collected over a full permit cycle. Data must be collected and reported for the period of the permit cycle prior to permit renewal.

[c] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Facility and then permanently removed at the West Point Treatment Plant. The reported daily average(s) of TSS% removal efficiency at West Point WWTP, corresponding to the event, must be used for calculating the total removal efficiency for the CSO Treatment Facility.

Note: While % TSS removal is reported on a monthly basis, compliance is based on the yearly average as reported in the annual CSO report as required in S18.

[d] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

[e] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[f] To calculate the average monthly value for fecal coliform, you must use the geometric mean for the day(s) in which a discharge(s) occur. Do not include non-discharge days in the calculation. Ecology gives directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators,* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

The final limits are effective beginning June 1, 2011, through the end of the permit.

EFFLUENT LIMITS: OUTFALL # 027B			
Parameter	**Discharge Limits (Monthly)**	**Discharge Limits [a] (Annual Average)**	**Discharge Limits [b] (Long-Term Average)**
Total Suspended Solids Removal Efficiency [c]	Report	Equal to or greater than 50% removal of influent TSS	Not Applicable (NA)
Fecal Coliform Bacteria [f]	154/100 mL with no more than 10% of the discharge days exceeding 473/100 mL	Report	NA
Settleable Solids	1.9 mL/L/hr(Maximum Allowable Per Event)	0.3 mL/L/hr	NA
pH [e]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0.		
Number of Discharge Events	Report	Report	NA
Discharge Volume	Report	Report	NA

Parameter	**Average Monthly**	**Maximum Daily Average [d]**
Total Residual Chlorine	NA	104 µg/L

[a] The yearly limits will be calculated using per-event data points. Data must be collected and reported on a calendar year basis.

[b] Long-term average will be calculated using data collected over a full permit cycle. Data must be collected and reported for the period of the permit cycle prior to permit renewal.

[c] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Facility and then permanently removed at the West Point Treatment Plant. The reported daily average(s) of TSS% removal efficiency at West Point WWTP, corresponding to the event, must be used for calculating the total removal efficiency for the CSO Treatment Facility. Note: While % TSS removal is reported on a monthly basis, compliance is based on the yearly average as reported in the annual CSO report as required in S18.

[d] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

[e] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[f] To calculate the average monthly value for fecal coliform, you must use the geometric mean. In this calculation include day(s) in which a discharge(s) occur and non-discharge days. For non-discharge days, include a value of 1 for the monthly geometric mean value. If there are more than one sample collected in any given calendar day, calculate an arithmetic mean for the events in that calendar day. The monthly geometric mean is calculated from the daily values. If discharges occur on less than 10 days in the month then 1 day may exceed 473/100 mL.

E. Effluent Limits for Outfall 044 (MLK/Henderson CSO Treatment Plant)

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated combined sewer overflows at the permitted location subject to compliance with the following limits. Discharges from this outfall are prohibited except as a result of a precipitation event.

EFFLUENT LIMITS: OUTFALL # 044			
Parameter	**Discharge Limits (Monthly)**	**Discharge Limits [a] (Annual Average)**	**Discharge Limits [b] (Long-Term Average)**
Total Suspended Solids Removal Efficiency [c]	Report	Equal to or greater than 50% removal of influent TSS	Not Applicable (NA)
Fecal Coliform Bacteria [f]	400/100 mL	Report	NA
Settleable Solids	1.9 mL/L/hr(Maximum Allowable Per Event)	0.3 mL/L/hr	NA
pH [e]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0		
Number of Discharge Events	Report	Report	NA
Discharge Volume	Report	Report	NA

Parameter	**Average Monthly**	**Maximum Daily Average [d]**
Total Residual Chlorine	NA	39 µg/L

[a] The yearly limits will be calculated using per-event data points. Data must be collected and reported on a calendar year basis.

[b] Long-term average will be calculated using data collected over a full permit cycle. Data must be collected and reported for the period of the permit cycle prior to permit renewal.

[c] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Facility and then permanently removed at the West Point Treatment Plant. The reported daily average(s) of TSS% removal efficiency at West Point WWTP, corresponding to the event, must be used for calculating the total removal efficiency for the CSO Treatment Facility.
Note: While % TSS removal is reported on a monthly basis, compliance is based on the yearly average as reported in the annual CSO report as required in S18.

[d] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

[e] Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[f] To calculate the average monthly value for fecal coliform, you must use the geometric mean for the day(s) in which a discharge(s) occur. Do not include non-discharge days in the calculation. Ecology gives directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators,* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

F. Mixing Zone Authorization

The following paragraphs define the maximum boundaries or flow volume restriction of the mixing zones:

Chronic Mixing Zone - Estuaries

WAC 173-201A-400(7)(b)(i) specifies mixing zones must not extend in any horizontal direction from the discharge ports for a distance greater than 200 feet plus the depth of water over the discharge ports as measured during mean lower low water (MLLW). The mixing zone is a circle with radius measured from the center of each discharge port. The mixing zone extends from the seabed to the top of the water surface. Chronic aquatic life criteria and human health criteria must be met at the edge of the chronic zone.

Acute Mixing Zone - Estuaries

WAC 173-201A-400(8)(b) specifies that in estuarine waters a zone where acute criteria may be exceeded must not extend beyond 10% of the distance established for the maximum or chronic zone as measured independently from the discharge ports. The acute mixing zone is a circle with radius measured from the center of each discharge port. The mixing zone extends from the seabed to the top of the water surface. Acute aquatic life criteria must be met at the edge of the acute zone.

Chronic Mixing Zone – River – MLK/Henderson CSO only

WAC 173-201A-400(7)(a)(i, ii or iii) specified in rivers and streams, mixing zones, singularly or in combination with other mixing zones, shall comply with the most restrictive combination of the following:

(i) Not extend in a downstream direction for a distance from the discharge port(s) greater than three hundred feet plus the depth of water over the discharge port(s), or extend upstream for a distance of over one hundred feet;

(ii) Not utilize greater than twenty-five percent of the flow; and

(iii) Not occupy greater than twenty-five percent of the width of the water body.

Acute Mixing Zone – River – MLK/Henderson CSO only

WAC 173-201A-400(8)(a)(i, ii or iii) specifies in rivers and streams, a zone where acute criteria may be exceeded shall comply with the most restrictive combination of the following:

(i) Not extend beyond ten percent of the distance towards the upstream and downstream boundaries of an authorized mixing zone, as measured independently from the discharge port(s);

(ii) Not utilize greater than two and one-half percent of the flow; and

(iii) Not occupy greater than twenty-five percent of the width of the water body.

Outfall	Chronic Mixing Zone Radius (feet) [b]	Zone of Acute Criteria Exceedance Radius (feet) [b]	Chronic Dilution Ratio	Acute Dilution Ratio
West Point WWTP	430 (131 m)	43 (13.1m)	181:1	28:1
Alki CSO [a]	343 (104 m)	34 (10.4 m)	61:1	17.5:1
Carkeek CSO [a]	395 (120 m)	39.5 (12.0 m)	146:1	93:1
Elliott West CSO [a]	260 (79 m)	26 (7.9 m)	11:1	7.8:1
MLK/Henderson CSO [a]	312 (95 m)	31.2 (9.5 m)	10.3:1	1.9:1

Footnote:
[a] Mixing zone dilution modeling is more accurate for continuous discharges. The resultant dilution ratio that is achieved in the mixing zone of an intermittent discharge such as this is an approximation that is based on reasonable assumptions about the flow characteristics of the discharge and conditions of the receiving water.
[b] As measured from each port.

S2. MONITORING REQUIREMENTS

A. Monitoring Schedule

1. West Point WWTP Outfall #001

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding Sampling Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter [j]	Units	Minimum Sampling Frequency	Sample Type
(1) Wastewater Influent			
Wastewater Influent means the raw sewage flow. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
BOD_5	mg/L	Weekly	24-hr Composite [c]
BOD_5	lbs/day	Weekly	Calculation [g]
$CBOD_5$	mg/L	Daily	24-hr Composite [c]
$CBOD_5$	lbs/day	Daily	Calculation [g]
TSS	mg/L	Daily	24-hr Composite [c]
TSS	lbs/day	Daily	Calculation [g]
(2) Final Wastewater Effluent			
Final Wastewater Effluent means wastewater which is exiting, or has exited, the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the $CBOD_5$ analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Measurement
$CBOD_5$ [f]	mg/L	Daily	24-hr Composite [c]
$CBOD_5$	lbs/day	Daily	Calculation [g]
$CBOD_5$	% removal	Monthly [h]	Calculation [d]
TSS	mg/L	Daily	24-hr Composite [c]
TSS	lbs/day	Daily	Calculation [g]
TSS	% removal	Monthly [h]	Calculation [d]
Chlorine (sample before dechlorination)	µg/L	Continuous [a]	Measurement
Chlorine (sample after dechlorination)	µg/L	Continuous [a]	Measurement
Fecal Coliform	Organisms /100 ml	Daily	Grab [e]
pH	Standard Units	Continuous [a]	Measurement
Temperature [b]	°C	Daily	Grab [e] or Continuous [a]
(3) Effluent Characterization – Final Wastewater Effluent			
Total Ammonia	mg/L N	Monthly [h]	24-hr Composite [c]
Total Ammonia	lbs/day	Monthly [h]	Calculation [g]
Total Phosphorus	mg/L P	Monthly [h]	24-hr Composite [c]
Ortho-Phosphate (PO_4)	mg/L P	Monthly [h]	24-hr Composite [c]
Nitrate-Nitrite Nitrogen	mg/L N	Monthly [h]	24-hr Composite [c]
Total Kjeldahl Nitrogen	mg/L N	Monthly [h]	24-hr Composite [c]
(4) Whole Effluent Toxicity Testing – Final Wastewater Effluent			
Acute Toxicity Testing		2/permit cycle	24-hr Composite [c]
Chronic Toxicity Testing		2/permit cycle	24-hr Composite [c]
Additional requirements specified in Permit Conditions S15 and S16.			

Parameter [j]	Units	Minimum Sampling Frequency	Sample Type
(5) Pretreatment			
As specified in Permit Condition S6.			
(6) Permit Application Requirements – Final Wastewater Effluent			
Temperature	Degrees Celsius	As required above	As required above
BOD	mg/L	As required above	As required above
Fecal Coliform	Organisms /100ml	As required above	As required above
Dissolved Oxygen	mg/L	Once per year	Grab [e]
Oil and Grease (HEM)	mg/L	Once per year	Grab [e]
Total Dissolved Solids	mg/L	Once per year	24-hr Composite [c]
Total Hardness	mg/L	Twice per year [i,j]	24-hr Composite [c]
Cyanide	µg/L	Twice per year [i,j]	24-hr Composite [c] or Grab [e]
Total Phenols	µg/L	Twice per year [i,j]	24-hr Composite [c]
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	Twice per year [i,j]	24-hr Composite [c] or Grab [e]
Volatile Compounds - Appendix A	µg/L	Twice per year [i,j]	24-hr Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	Twice per year [i,j]	24-hr Composite [c]
Base/Neutral Compounds - Appendix A	µg/L	Twice per year [i,j]	24-hr Composite [c]
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for Appendix A pollutant testing with the discharge monitoring report.			
(7) Receiving Water Characterization			
As specified in Permit Condition S12.			
(8) Sediment Study			
As specified in Permit Conditions S13.			

Footnotes

[a]	"Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.
[b]	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which is usually in the late afternoon. If temperature is measured continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. To determine the daily average, use the temperature on the half-hour from the chart for the twenty-four (24)-hour period and calculate the average of the values. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.
[c]	"24-hour composite" means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
[d]	Calculate the percent (%) removal of CBOD and TSS using the following algorithm (concentrations in mg/L): (Average Monthly Influent Concentration - Average Monthly Effluent Concentration)/Average Monthly Influent Concentration.
[e]	"Grab" means an individual sample collected over a fifteen (15)-minute, or less, period.
[f]	Effluent samples for $CBOD_5$ analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.
[g]	"Calculation" means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day
[h]	"Monthly" means once every calendar month.
[i]	One of the two annual sampling events must occur when flows are being diverted around the secondary process (i.e. instantaneous effluent flow rate is greater than 300 MGD) or when the average daily precipitation is equal to or greater than 0.25 inches.

[j] See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels. Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A.

Report single analytical values between the detection and quantitation levels with qualifier code of j following the value.

To calculate the average value (monthly average):

- Use the reported numeric value for all parameters measured between the detection value and the quantitation value.
- For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period.
- For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.

2. Alki CSO Treatment Plant Outfall #051

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding SAP/QAPP documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter [k]	Units	Minimum Sampling Frequency	Sample Type
(1) Influent			
Influent means the combined raw sewage and stormwater flows entering the CSO treatment plant.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
BOD_5	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
(2) Final Effluent			
Final Effluent means treated CSO which is exiting, or has exited, the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
Discharge Duration	Hours	Per Event [j]	Measurement
Storm Duration	Hours	Per Event [l]	Measurement
Precipitation	Inches	Per Event [j]	Measurement/Calculation [g]
BOD_5 [f]	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	% removal [d]	Per Month [h]	Calculation Per Event
Settleable Solids	mL/L/hr	Per Event [j]	Flow Proportional Composite [c]
Total Residual Chlorine	ug/L	Per Event [j]	Analyzer reading or Grab [e]
Fecal Coliform	Organisms /100 ml	Per Event [j]	Grab [e]
pH	Standard Units	Per Event [j]	Continuous or Grab [e]
Temperature [b]	°C	Twice per year	Grab [e]

Parameter [k]	Units	Minimum Sampling Frequency	Sample Type
(3) Effluent Characterization – Final Effluent			
Total Ammonia	mg/L N	Once per year	Flow Proportional Composite [c]
Total Ammonia	lbs/day	Once per year	Calculated [l]
Total Phosphorus	mg/L P	Once per year	Flow Proportional Composite [c]
Ortho-Phosphate (PO_4)	mg/L P	Once per year	Flow Proportional Composite [c]
Nitrate-Nitrite Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Kjeldahl Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Alkalinity	mg $CaCO_3$/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Salinity	pss	Once per year	Flow Proportional Composite [c] or Grab [e]
(4) Permit Application Requirements – Final Effluent			
Temperature [b]	Degrees Celsius	As required above	As required above
BOD [f]	mg/L	As required above	As required above
Fecal Coliform	Organisms /100ml	As required above	As required above
Total Ammonia	mg/L N	As required above	As required above
Total Residual Chlorine	mg/L	As required above	As required above
Dissolved Oxygen	mg/L	Once per year	Continuous or Grab [e]
Nitrate plus Nitrite N	mg/L N	As required above	As required above
Oil and Grease	mg/L	Once per year	Grab [e]
Phosphorus (Total)	mg/L P	As required above	As required above
Total Dissolved Solids	mg/L	Once per year	Flow Proportional Composite [c]
Total Hardness	mg/L	Once per year	Flow Proportional Composite [c]
Cyanide	µg/L	Once per year	Grab [e]
Total Phenols	µg/L	Once per year	Flow Proportional Composite [c]
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Volatile Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
Base/Neutral Compounds-Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for Appendix A pollutant testing with the discharge monitoring report.			
(5) Receiving Water Characterization			
As specified in Permit Condition S18.I			
(6) Sediment Study			
As specified in Permit Condition S18.J			

Footnotes

[a] "Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.

[b] If temperature is measured continuously, the Permittee must determine and report a daily maximum from half-hour measurements during the event. To determine the daily average, use the temperature on the half-hour from the recorder for the duration of the event and calculate the average of the values. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

[c] "Flow proportional composite" means a series of individual samples collected over a flow period into a single container, and analyzed as one sample. The composite sample should represent the entire discharge event.

[d] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Plant and then permanently removed at the West Point Treatment Plant based on the estimated removal efficiency at West Point.
[e] "Grab" means an individual sample collected over a fifteen (15)-minute, or less, period. Grab samples must be taken at specific time intervals after the discharge begins to the receiving water as follows: 1. 1 sample within first 3 hours 2. 1 sample after 4-8 hours 3. 1 sample after 20-24 hours 4. If the discharges extend beyond 24 hours, at a minimum 1 sample should be taken each day until the discharge ends. Each individual fecal coliform sample should be dechlorinated. The chlorine analyzer reading should be logged at the same time as fecal coliform sample is taken.
[f] Effluent samples for BOD_5 analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.
[g] "Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest precipitation-measuring device as owned and operated by King County and actively monitored during the period of interest.
[h] "Per month" means once every calendar month.
[i] "Calculated" means figured concurrently with the respective event, using the following formula: Concentration (in mg/L) x Flow (in MGD) x Conversion Factor (8.34) = lbs/day
[j] "Per Event" means a unique flow event as defined in the *Permit Writer's Manual*, p. V-30. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.
[k] See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels. Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A. Report single analytical values between the detection and quantitation levels with qualifier code of j following the value. To calculate the average value (monthly average): • Use the reported numeric value for all parameters measured between the detection value and the quantitation value. • For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period. • For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.
[l] Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.

3. Carkeek CSO Treatment Plant Outfall #046

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding SAP/QAPP documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter [k]	Units	Minimum Sampling Frequency	Sample Type
(1) Influent			
Influent means the combined raw sewage and stormwater flows entering the CSO treatment plant.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
BOD_5	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
(2) Final Effluent			
Final Effluent means treated CSO which is exiting, or has exited, the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
Discharge Duration	Hours	Per Event [j]	Measurement
Storm Duration	Hours	Per Event [l]	Measurement
Precipitation	Inches	Per Event [j]	Measurement/Calculation [g]
BOD_5 [f]	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	% removal [d]	Per Month [h]	Calculation Per Event
Settleable Solids	mL/L/hr	Per Event [j]	Flow Proportional Composite [c]
Total Residual Chlorine	ug/L	Per Event [j]	Analyzer reading or Grab [e]
Fecal Coliform	Organisms /100 ml	Per Event [j]	Grab [e]
pH	Standard Units	Per Event [j]	Continuous or Grab [e]
Temperature [b]	°C	Twice per year	Grab [e]
(3) Effluent Characterization – Final Effluent			
Total Ammonia	mg/L N	Once per year	Flow Proportional Composite [c]
Total Ammonia	lbs/day	Once per year	Calculation [i]
Total Phosphorus	mg/L P	Once per year	Flow Proportional Composite [c]
Ortho-Phosphate (PO_4)	mg/L P	Once per year	Flow Proportional Composite [c]
Nitrate-Nitrite Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Kjeldahl Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Alkalinity	Mg $CaCO_3$/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Salinity	pss	Once per year	Flow Proportional Composite [c] or Grab [e]
(4) Permit Application Requirements – Final Effluent			
Temperature [b]	Degrees Celsius	As required above	As required above
BOD [f]	mg/L	As required above	As required above
Fecal Coliform	Organisms /100ml	As required above	As required above
Total Ammonia	mg/L N	As required above	As required above
Total Residual Chlorine	mg/L	As required above	As required above
Dissolved Oxygen	mg/L	Once per year	Continuous or Grab [e]
Nitrate plus Nitrite N	mg/L N	As required above	As required above
Oil and Grease (HEM)	mg/L	Once per year	Grab [e]
Phosphorus (Total)	mg/L P	As required above	As required above
Total Dissolved Solids	mg/L	Once per year	Flow Proportional Composite [c]
Total Hardness	mg/L	Once per year	Flow Proportional Composite [c]
Cyanide	µg/L	Once per year	Grab [e]
Total Phenols	µg/L	Once per year	Flow Proportional Composite [c]

Parameter [k]	Units	Minimum Sampling Frequency	Sample Type
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
Volatile Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
Base/Neutral Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for priority pollutant testing with the discharge monitoring report.			
(5) Receiving Water Characterization			
As specified in Permit Condition S18.I			
(6) Sediment Study			
As specified in Permit Condition S18.J			

Footnotes

[a] "Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.

[b] If temperature is measured continuously, the Permittee must determine and report a daily maximum from half-hour measurements during the event. To determine the daily average, use the temperature on the half-hour from the recorder for the duration of the event and calculate the average of the values. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

[c] "Flow proportional composite" means a series of individual samples collected over a flow period into a single container, and analyzed as one sample. The composite sample should represent the entire discharge event.

[d] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Plant and then permanently removed at the West Point Treatment Plant based on the estimated removal efficiency at West Point.

[e] "Grab" means an individual sample collected over a fifteen (15)-minute, or less, period. Grab samples must be taken at specific time intervals after the discharge begins to the receiving water as follows:

1. 1 sample within first 3 hours
2. 1 sample after 4-8 hours
3. 1 sample after 20-24 hours
4. If the discharges extend beyond 24 hours, at a minimum, 1 sample should be taken each day until the discharge ends.

Each individual fecal coliform sample should be dechlorinated.
The chlorine analyzer reading should be logged at the same time as fecal coliform sample is taken.

[f] Effluent samples for BOD_5 analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

[g] "Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest precipitation-measuring device as owned and operated by King County and actively monitored during the period of interest.

[h] "Per month" means once every calendar month.

[l] "Calculation" means figured concurrently with the respective event, using the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day

[j] "Per Event" means a unique flow event as defined in the *Permit Writer's Manual*, p. V-30. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.

[k] See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels.

Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A.

Report single analytical values between the detection and quantitation levels with qualifier code of j following the value.

To calculate the average value (monthly average):

- Use the reported numeric value for all parameters measured between the detection value and the quantitation value.
- For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period.
- For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.

[l] Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.

4. Elliott West CSO Treatment Plant Outfall #027

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding SAP/QAPP documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter [l]	Units	Minimum Sampling Frequency	Sample Type
(1) Influent			
Influent means the combined raw sewage and stormwater flows entering the CSO treatment plant.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [k]	Measurement/Calculation [g]
BOD_5 [j]	mg/L	Per Event [k]	Flow Proportional Composite [c]
TSS [j]	mg/L	Per Event [k]	Flow Proportional Composite [c]
(2) Final Effluent			
Final Effluent means treated CSO which is exiting, or has exited, the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [k]	Measurement/Calculation [g]
Discharge Duration	Hours	Per Event [k]	Measurement
Storm Duration	Hours	Per Event [m]	Measurement
Precipitation	Inches	Per Event [k]	Measurement/Calculation [g]
BOD_5 [f]	mg/L	Per Event [k]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [k]	Flow Proportional Composite [c]
TSS	% removal [d]	Per Month [h]	Calculation Per Event
Settleable Solids	mL/L/hr	Per Event [k]	Flow Proportional Composite [c]
Total Residual Chlorine	ug/L	Per Event [k]	Analyzer reading or Grab [e]
Fecal Coliform	Organisms /100 ml	Per Event [k]	Grab [e]
pH	Standard Units	Per Event [k]	Continuous or Grab [e]
Temperature [b]	°C	Twice per year	Grab [e]
(3) Effluent Characterization – Final Effluent			
Total Ammonia	mg/L N	Once per year	Flow Proportional Composite [c]
Total Ammonia	lbs/day	Once per year	Calculated [i]
Total Phosphorus	mg/L P	Once per year	Flow Proportional Composite [c]
Ortho-Phosphate (PO_4)	mg/L P	Once per year	Flow Proportional Composite [c]

Parameter [l]	Units	Minimum Sampling Frequency	Sample Type
Nitrate-Nitrite Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Kjeldahl Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Alkalinity	Mg $CaCO_3$/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Salinity	pss	Once per year	Flow Proportional Composite [c] or Grab [e]
Copper	µg/L	Four times per year	Flow Proportional Composite [c]
(4) Permit Application Requirements – Final Effluent			
Temperature [b]	Degrees Celsius	As required above	As required above
BOD [f]	mg/L	As required above	As required above
Fecal Coliform	Organisms /100ml	As required above	As required above
Total Ammonia	mg/L N	As required above	As required above
Total Residual Chlorine	mg/L	As required above	As required above
Dissolved Oxygen	mg/L	Once per year	Continuous or Grab [e]
Total Kjeldahl Nitrogen	mg/L N	Once per year	Flow Proportional
Nitrate plus Nitrite N	mg/L N	As required above	As required above
Oil and Grease	mg/L	Once per year	Grab [e]
Phosphorus (Total)	mg/L P	As required above	As required above
Total Dissolved Solids	mg/L	Once per year	Flow Proportional Composite [c]
Total Hardness	mg/L	Once per year	Flow Proportional Composite [c]
Cyanide	µg/L	Once per year	Grab [e]
Total Phenols	µg/L	Once per year	Flow Proportional Composite [c]
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Volatile Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
Base/Neutral Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for Appendix A pollutant testing with the discharge monitoring report.			
(5) Receiving Water Characterization			
As specified in Permit Condition S18.I			
(6) Sediment Study			
As specified in Permit Condition S18.J			

Footnotes

[a] "Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.

[b] If temperature is measured continuously, the Permittee must determine and report a daily maximum from half-hour measurements during the event. To determine the daily average, use the temperature on the half-hour from the recorder for the duration of the event and calculate the average of the values. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

[c] "Flow proportional composite" means a series of individual samples collected over a flow period into a single container, and analyzed as one sample. The composite sample should represent the entire discharge event.

[d] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Plant and then permanently removed at the West Point Treatment Plant based on the estimated removal efficiency at West Point.

[e] "Grab" means an individual sample collected over a fifteen (15)-minute, or less, period. Grab samples must be taken at specific time intervals after the discharge begins to the receiving water as follows:
1. 1 sample within first 3 hours
2. 1 sample after 4-8 hours
3. 1 sample after 20-24 hours
4. If the discharges extend beyond 24 hours, at a minimum, 1 sample should be taken each day until the discharge ends.

Each individual fecal coliform sample should be dechlorinated.
The chlorine analyzer reading should be logged at the same time as fecal coliform sample is taken.

[f] Effluent samples for BOD_5 analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

[g] "Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest precipitation-measuring device as owned and operated by King County and actively monitored during the period of interest.

[h] "Per month" means once every calendar month.

[i] "Calculated" means figured concurrently with the respective event, using the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day

[j] The influent concentrations of TSS and BOD are to be calculated on a mass balance basis. The influent concentration is the sum of the mass flow discharged to West Point and the mass flow of Treated Discharged, divided by the total flow discharged.

[k] "Per Event" means a unique flow event as defined in the *Permit Writer's Manual*, p. V-30. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.

[l] See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels. Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A.

Report single analytical values between the detection and quantitation levels with qualifier code of j following the value.

To calculate the average value (monthly average):

- Use the reported numeric value for all parameters measured between the detection value and the quantitation value.
- For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period.
- For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.

[m] Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.

5. MLK/Henderson CSO Treatment Plant Outfall #044

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding SAP/QAPP documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter [l]	Units	Minimum Sampling Frequency	Sample Type
(1) Influent			
Influent means the combined raw sewage and stormwater flows entering the CSO treatment plant.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
BOD_5	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
(2) Final Effluent			
Final Effluent means treated CSO which is exiting, or has exited, the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Measurement
Volume	MG	Per Event [j]	Measurement/Calculation [g]
Discharge Duration	Hours	Per Event [j]	Measurement
Storm Duration	Hours	Per Event [m]	Measurement
Precipitation	Inches	Per Event [j]	Measurement/Calculation [g]
BOD_5 [f]	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	mg/L	Per Event [j]	Flow Proportional Composite [c]
TSS	% removal [d]	Per Month [h]	Calculation Per Event
Settleable Solids	mL/L/hr	Per Event [j]	Flow Proportional Composite [c]
Total Residual Chlorine	ug/L	Per Event [j]	Analyzer Reading or Grab [e]
Fecal Coliform	Organisms /100 ml	Per Event [j]	Grab [e]
pH	Standard Units	Per Event [j]	Continuous or Grab [e]
Temperature [b]	°C	Twice per year	Grab [e]
(3) Effluent Characterization – Final Effluent			
Total Ammonia	mg/L N	Once per year	Flow Proportional Composite [c]
Total Ammonia	lbs/day	Once per year	Calculation [i]
Total Phosphorus	mg/L P	Once per year	Flow Proportional Composite [c]
Ortho-Phosphate (PO_4)	mg/L P	Once per year	Flow Proportional Composite [c]
Nitrate-Nitrite Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Kjeldahl Nitrogen	mg/L N	Once per year	Flow Proportional Composite [c]
Total Alkalinity	Mg $CaCO_3$/L	Once per year	Flow Proportional Composite [c] or Grab [e]
(4) Effluent Characterization (S18.F) – Final Effluent			
Salinity	pss	First 4 discharge events	Flow Proportional Composite [c] or Grab [e]
Total Hardness	mg/L	First 4 discharge events	Flow Proportional Composite [c]
Cyanide	µg/L	First 4 discharge events	Grab [e]
Total Phenols	µg/L	First 4 discharge events	Flow Proportional Composite [c]
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	First 4 discharge events	Flow Proportional Composite [c] or Grab [e]
Volatile Compounds - Appendix A	µg/L	First 4 discharge events	Flow Proportional Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	First 4 discharge events	Flow Proportional Composite [c]
Base/Neutral Compounds - Appendix A	µg/L	First 4 discharge events	Flow Proportional Composite [c]
(5) Permit Application Requirements – Final Effluent			
Temperature [b]	Degrees Celsius	As required above	As required above

Parameter [l]	Units	Minimum Sampling Frequency	Sample Type
BOD [f]	mg/L	As required above	As required above
Fecal Coliform	Organisms /100ml	As required above	As required above
Total Ammonia	mg/L N	As required above	As required above
Total Residual Chlorine	mg/L	As required above	As required above
Dissolved Oxygen	mg/L	Once per year	Continuous or Grab [e]
Nitrate plus Nitrite N	mg/L N	As required above	As required above
Oil and Grease	mg/L	Once per year	Grab [e]
Phosphorus (Total)	mg/L P	As required above	As required above
Total Dissolved Solids	mg/L	Once per year	Flow Proportional Composite [c]
Total Hardness	mg/L	Once per year	Flow Proportional Composite [c]
Cyanide	µg/L	Once per year	Grab [e]
Total Phenols	µg/L	Once per year	Flow Proportional Composite [c]
Metals – as listed under heading "Metals, Cyanide & Total Phenols" in Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Volatile Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c] or Grab [e]
Acid Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
Base/ Neutral Compounds - Appendix A	µg/L	Once per year	Flow Proportional Composite [c]
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for Appendix A pollutant testing with the discharge monitoring report.			
(6) Receiving Water Characterization			
As specified in Permit Condition S18.I			
(7) Sediment Study			
As specified in Permit Condition S18.J			

Footnotes

[a] "Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.

[b] If temperature is measured continuously, the Permittee must determine and report a daily maximum from half-hour measurements during the event. To determine the daily average, use the temperature on the half-hour from the recorder for the duration of the event and calculate the average of the values. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

[c] "Flow proportional composite" means a series of individual samples collected over a flow period into a single container, and analyzed as one sample. The composite sample should represent the entire discharge event.

[d] The total removal efficiency for TSS is to be calculated on a mass balance basis as the percent of solids captured at the CSO Treatment Plant and then permanently removed at the West Point Treatment Plant based on the estimated removal efficiency at West Point.

[e] "Grab" means an individual sample collected over a fifteen (15)-minute, or less, period. Grab samples must be taken at specific time intervals after the discharge begins to the receiving water as follows:

1. 1 sample within first 3 hours
2. 1 sample after 4-8 hours
3. 1 sample after 20-24 hours
4. If the discharges extends beyond 24 hours, at a minimum 1 sample should be taken each day until the discharge ends.

Each individual fecal coliform sample should be dechlorinated.
The chlorine analyzer reading should be logged at the same time as fecal coliform sample is taken.

[f] Effluent samples for BOD_5 analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

[g] "Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest precipitation-measuring device as owned and operated by King County and actively monitored during the period of interest.
[h] "Per month" means once every calendar month.
[i] "Calculation" means figured concurrently with the respective event, using the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day
[j] "Per Event" means a unique flow event as defined in the *Permit Writer's Manual*, p. V-30. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.
[k] The first sampling round analytical results must be submitted to Ecology as soon as they are available.
[l] See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels. Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A. Report single analytical values between the detection and quantitation levels with qualifier code of j following the value. To calculate the average value (monthly average): • Use the reported numeric value for all parameters measured between the detection value and the quantitation value. • For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period. • For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.
[m] Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.

6. CSO Outfalls (All CSO outfalls listed in Special Condition S18, except for CSO Treatment Plant outfalls)

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding SAP/QAPP documents. Alternative methods from 40 CFR Part 136 are acceptable if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Parameter	Units	Minimum Sampling Frequency	Sample Type
(1) Discharge			
Discharge means an untreated CSO which will exit or has exited the CSO outfall.			
Flow	MGD	Continuous [a]	Measurement/Calculation [b]
Volume	MG	Per Event [c]	Measurement/Calculation [b]
Discharge Duration	Hours	Per Event [c]	Measurement
Storm Duration	Hours	Per Event [d]	Measurement
Precipitation	Inches	Per Event [c]	Measurement/Calculation [b]
(2) Sediment Study			
As specified in Permit Condition S18.			

Footnotes

[a] "Continuous" means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. During periods of interrupted service, a calculation can be submitted.

[b] "Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest precipitation-measuring device as owned and operated by King County and actively monitored during the period of interest.
[c] "Per Event" means a unique flow event as defined in the *Permit Writer's Manual*, p. V-30. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.
[d] Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, unit process failures, and maintenance-related conditions that may affect effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.

C. Flow Measurement, Field Measurement, and Continuous Monitoring Devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.

2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard and the manufacturer's recommendation for that type of device.

3. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

4. Calibrate these devices at the frequency recommended by the manufacturer.

5. Calibrate flow monitoring devices at a minimum frequency of at least one calibration per year.

6. Maintain calibration records for at least three years.

D. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by Ecology is prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.* Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement.

S3. REPORTING AND RECORDING REQUIREMENTS

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. The Permittee must:

1. Submit monitoring results each month.
2. Summarize, report, and submit monitoring data obtained during each monitoring period on a discharge monitoring report (DMR) form provided, or otherwise approved, by Ecology.
3. Submit DMR forms monthly whether or not the facility was discharging. If the facility did not discharge during a given monitoring period, submit the form as required with the words "NO DISCHARGE" entered in place of the monitoring results.
4. Ensure that DMR forms are postmarked or received by Ecology no later than the 20th day of the month following the completed monitoring period, unless otherwise specified in this permit.
5. Submit priority pollutant analysis data no later than 60 days following the monitoring.
6. Send report(s) to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

All laboratory reports providing data for organic and metal parameters must include the following information: sampling date, sample location, date of analysis, parameter name, analytical method/number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected. Analytical results from samples sent to a contract laboratory must include information on the chain of custody, the analytical method, QA/QC results, and documentation of accreditation for the parameter.

B. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this

permit. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

C. Recording of Results

For each measurement or sample taken, the Permittee must record the following information: The date, exact place, method, and time of sampling or measurement.

1. The individual who performed the sampling or measurement.
2. The dates the analyses were performed.
3. The individual who performed the analyses.
4. The analytical techniques or methods used.
5. The results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

- Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
- If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within thirty (30) days of sampling.

1. Immediate Reporting

The Permittee must report any failure of the disinfection system, any collection system overflows which may reach surface waters, or any plant bypass discharging to a shellfish area **immediately** to the Department of Ecology and the Department of Health, Shellfish Program at the numbers listed below:

Northwest Regional Office	425-649-7000
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-786-4183 (24 hours)

2. Twenty-four-hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at 425-649-7000, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

a. Any noncompliance that may endanger health or the environment, unless previously reported under subpart 1, above.

b. Any unanticipated **bypass** that exceeds any effluent limit in the permit (See Part S4.B, "Bypass Procedures").

c. Any **upset** that exceeds any effluent limit in the permit (See G.15, "Upset").

d. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

e. Any unpermitted overflow prior to the treatment works, whether or not such unpermitted overflow endangers health or the environment or exceeds any effluent limit in the permit.

3. Report Within Five Days

The Permittee must also provide a written submission within five business days of the time that the Permittee becomes aware of any event required to be reported under subparts 1 or 2, above. The written submission must contain:

a. A description of the noncompliance and its cause.

b. The period of noncompliance, including exact dates and times.

c. The estimated time noncompliance is expected to continue if it has not been corrected.

d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

e. If the noncompliance involves an unpermitted overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

4. Waiver of Written Reports

Ecology may waive the written report required in subpart 3, above, on a case-by-case basis upon request if a timely oral report has been received.

5. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in paragraph E.3, above. Compliance

with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

6. Report Submittal

The Permittee must submit reports to the address listed in S3.

F. Other Reporting

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and Chapter 173-303-145. You can obtain further instructions at the following website: http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm.

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

The Permittee must submit a new application or supplement at least 180 days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include: any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

G. Maintaining a Copy of This Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. FACILITY LOADING (West Point WWTP)

A. Design Criteria

The flows or waste loads for the permitted West Point WWTP must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	215 MGD
BOD_5 influent loading for maximum month	254,000 lb/day
TSS influent loading for maximum month	274,000 lb/day

B. Plans for Maintaining Adequate Capacity

The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when:

1. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months; or

2. The projected increase would reach design capacity within five years.

Whatever occurs first.

The plan and schedule for continuing to maintain capacity must be sufficient to achieve the effluent limits and other conditions of this permit. This plan must identify any of the following actions or any other actions necessary to meet the objective of maintaining capacity.

a. Analysis of the present design, including the introduction of any process modifications that would establish the ability of the existing facility to achieve the effluent limits and other requirements of this permit at specific levels in excess of the existing design criteria specified in paragraph A, above.

b. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.

c. Limitation on future sewer extensions or connections or additional waste loads.

d. Modification or expansion of facilities necessary to accommodate increased flow or waste load.

e. Reduction of industrial or commercial flows or waste loads to allow for increasing sanitary flow or waste load.

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

If the Permittee intends to apply for state or federal funding for the design or construction of a facility project, the plan may also need to meet the environmental review requirements as described in 40 CFR 35.3040 and 40 CFR 35.3045 and it may also need to demonstrate cost effectiveness as required by WAC 173-95-730. The plan must specify any contracts, ordinances, methods for financing, or other arrangements necessary to achieve this objective.

C. Duty to Mitigate

The Permittee must take all reasonable steps to minimize or prevent any wastewater, sludge (primary or waste activated), or biosolids discharge, use, or disposal which violates this permit and has a reasonable likelihood of adversely affecting human health or the environment.

D. Notification of New or Altered Sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the POTW is proposed which:

   a. Would interfere with the operation of, or exceed the design capacity of, any portion of the POTW;

   b. Is not part of an approved general sewer plan or approved plans and specifications; or

   c. Would be subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.

2. This notice must include an evaluation of the POTW's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the POTW, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

E. Wasteload Assessment

1. The Permittee must conduct an assessment of their influent flow and waste load and submit a report to Ecology with the next permit application.

2. The report must contain the following: an indication of compliance or noncompliance with the permit effluent limits; a comparison between the existing and design monthly average dry weather and wet weather flows, peak flows, BOD, and total suspended solids loadings; and the percentage change in these parameters since the previous report.

3. The report must also state the present and design population or population equivalent, projected population growth rate, and the estimated date upon which the design capacity is projected to be reached, according to the most restrictive of the parameters above.

4. Ecology may modify the interval for review and reporting if it determines that a different frequency is sufficient.

S5. OPERATION AND MAINTENANCE

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Certified Operator

The West Point WWTP permitted facility must be operated by an operator certified by the state of Washington for at least a Class IV plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class III plant must be in charge during all regularly scheduled shifts.

B. O & M Program

The Permittee must:

1. Institute an adequate Operation and Maintenance Program for the entire sewage system.

2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.

3. Make maintenance records available for inspection at all times.

C. Short-term Reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out in a manner approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, thirty (30) days prior to such activities.

2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

D. Electrical Power Failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class II (EPA 430/9-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., oxygen system) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

E. Prevent Connection of Inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system where under ownership and control of King County.

F. Bypass Procedures

This permit prohibits a bypass which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance of this permit.

   This bypass is permitted only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. No feasible alternatives to the bypass exist, such as:

      - The use of auxiliary treatment facilities.
      - Retention of untreated wastes.
      - Stopping production.
      - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
      - Transport of untreated wastes to another treatment facility or preventative maintenance), or transport of untreated wastes to another treatment facility.

c. Ecology is properly notified of the bypass as required in Condition S3E of this permit.

3. If bypass is anticipated and has the potential to result in noncompliance of this permit.

   a. The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

      - A description of the bypass and its cause.
      - An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
      - A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
      - The minimum and maximum duration of bypass under each alternative.
      - A recommendation as to the preferred alternative for conducting the bypass.
      - The projected date of bypass initiation.
      - A statement of compliance with SEPA.
      - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
      - Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

   b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during preparation of the engineering report or facilities plan and plans and specifications and must include these to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

   c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:

      - If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
      - If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
      - If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

G. Operations and Maintenance Manual

The Permittee must:

1. Review the O&M Manual at least annually and confirm this review by letter to Ecology.
2. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.
3. Keep the approved O&M Manual at the permitted facility.
4. Follow the instructions and procedures of this manual or other plant-related manuals.

In addition to the requirements of WAC 173-240-080 (1) through (5), the O&M Manual or other plant-related manuals must include:

1. Emergency procedures for cleanup in the event of wastewater system upset or failure.
2. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
3. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
4. The treatment plant process control monitoring schedule.
5. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

S6. PRETREATMENT

A. General Requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with King County Code 28.84.060 as amended by King County Ordinance No. 11963 on January 1, 1996, legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled "Industrial Pretreatment Program" and dated April 27, 1981; any approved revisions thereto; and the General Pretreatment Regulations (40 CFR Part 403). At a minimum, the Permittee must undertake the following pretreatment implementation activities:

a. Enforce categorical pretreatment standards under Section 307(b) and (c) of the Federal Clean Water Act (hereinafter, the Act), prohibited discharge standards as set forth in 40 CFR 403.5, local limits , or state standards, which ever are most stringent or apply at the time of issuance or modification of a local industrial waste discharge permit. Locally derived limits are defined as pretreatment standards under Section 307(d) of the Act and are not limited to categorical industrial facilities.

b. Issue industrial waste discharge permits to all significant industrial users [SIUs, as defined in 40 CFR 403.3(t)(i)(ii)] contributing to the treatment system, including those from other jurisdictions. Industrial waste discharge permits must contain as a minimum, all the requirements of 40 CFR 403.8 (f)(l)(iii). The Permittee must coordinate the permitting process with Ecology regarding any industrial facility which may possess a state waste discharge permit issued by Ecology.

c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the POTW. The Permittee must maintain records for at least a three-year period.

d. Perform inspections, surveillance, and monitoring activities on industrial users to determine or confirm compliance with pretreatment standards and requirements. The Permittee must conduct a thorough inspection of SIUs annually except that Middle-Tier Categorical Industrial Users as defined by 40 CFR 403.8(f)(2)(v)(B)&(C) need only be inspected once every two years. The Permittee must conduct regular local monitoring of SIU wastewaters commensurate with the character and volume of the wastewater but not less than once per year except for Middle-Tier Categorical Industrial Users which may be sampled once every two years. The Permittee must collect and analyze samples in accordance with 40 CFR Part 403.12(b)(5)(ii)-(v) and 40 CFR Part 136.

e. Enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements. Once violations have been identified, the Permittee must take timely and appropriate enforcement action to address the noncompliance. The Permittee's action must follow its enforcement response procedures and any amendments, thereof.

f. Publish, at least annually in a newspaper of general circulation within the Permittee's service area, a list of all nondomestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR 403.8(f)(2)(vii).

g. If the Permittee elects to conduct sampling of an SIU's discharge in lieu of requiring user self-monitoring, it must satisfy all requirements of 40 CFR Part 403.12. This includes monitoring and record keeping requirements of sections 403.12(g) and (o). For SIU's subject to categorical standards (CIUs), the Permittee may either complete baseline and initial compliance reports for the CIU (when required by 403.12(b) and (d)) or require these of the CIU. The Permittee

must ensure SIUs are provided the results of sampling in a timely manner, inform SIUs of their right to sample, their obligations to report any sampling they do, to respond to non-compliance, and to submit other notifications. These include a slug load report (403.12(f)), notice of changed discharge (403.12(j)), and hazardous waste notifications (403.12(p)). If sampling for the SIU, the Permittee must not sample less than once in every six month period unless the Permittee's approved program includes procedures for reduction of monitoring for Middle-Tier or Non-Significant Categorical Users per 403.12(e)(2) and (3) and those procedures have been followed.

h. Develop and maintain a data management system designed to track the status of the Permittee's industrial user inventory, industrial user discharge characteristics, and compliance status.

i. Maintain adequate staff, funds, and equipment to implement its pretreatment program.

j. Establish, where necessary, contracts or legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements by commercial or industrial users within these jurisdictions. These contracts or agreements must identify the agency responsible for the various implementation and enforcement activities to be performed in the contributing jurisdiction.

2. Per 40 CFR 403.8(f)(2)(vii), the Permittee must evaluate each Significant Industrial User to determine if a Slug Control Plan is needed to prevent slug discharges which may cause interference, pass-through, or in any other way result in violations of the Permittee's regulations, local limits or permit conditions. The Slug Control Plan evaluation shall occur within one year of a user's designation as a Significant Industrial User. In accordance with 40 CFR 403.8(f)(1)(iii)(B)(6) the Permittee shall include slug discharge control requirements in an SIU's permit if the Permittee determines that they are necessary.

3. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Subsection (b), (c), or (d) of Section 307 of the Act, and the Permittee has not taken adequate corrective action, Ecology will notify the Permittee of this determination. If the Permittee fails to take appropriate enforcement action within 30 days of this notification, Ecology may take appropriate enforcement action against the source or the Permittee.

4. Pretreatment Report

The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year.

By March 31st, the Permittee must send the annual report to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

The report must include the following information:

a. An updated listing of nondomestic industrial dischargers.

b. Results of wastewater sampling at the treatment plant as specified in Subsection B below. The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits in prevention of treatment plant interference, pass through of pollutants that could affect receiving water quality, and sludge contamination.

c. Status of program implementation, including:

   i. Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.

   ii. Any interference, upset, or permit violations experienced at the POTW that are directly attributable to wastes from industrial users.

   iii. Listing of industrial users inspected and/or monitored, and a summary of the results.

   iv. Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.

   v. Listing of industrial users notified of promulgated pretreatment standards and/or local standards as required in 40 CFR 403.8(f)(2)(iii). The list must indicate which industrial users are on compliance schedules and the final date of compliance for each.

   vi. Listing of industrial users issued industrial waste discharge permits.

   vii. Planned changes in the pretreatment program implementation plan. (See subsection A.6. below.)

d. Status of compliance activities, including:

   i. Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12 and in the Permittee's pretreatment program, dated April 27, 1981.

ii. Listing of industrial users that were at any time during the reporting period not complying with federal, state, or local pretreatment standards or with applicable compliance schedules for achieving those standards, and the duration of such noncompliance.

iii. Summary of enforcement activities and other corrective actions taken or planned against noncomplying industrial users. The Permittee must supply to Ecology a copy of the public notice of facilities that were in significant noncompliance.

5. The Permittee must request and obtain approval from Ecology before making any significant changes to the approved local pretreatment program. The Permittee must follow the procedure in 40 CFR 403.18 (b) and (c).

B. Monitoring Requirements

The Permittee must monitor its influent, effluent, and sludge for the priority pollutants identified in Tables II and III of Appendix D of 40 CFR Part 122 as amended, any compounds identified as a result of Condition S6.B.4, and any other pollutants expected from nondomestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis. The Permittee must test influent, effluent, and sludge samples for the priority pollutant metals (Table III, 40 CFR 122, Appendix D) on a quarterly basis throughout the term of this permit. The Permittee must test influent, effluent, and sludge samples for the organic priority pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis.

1. The Permittee must sample POTW influent and effluent on a day when industrial discharges are occurring at normal to maximum levels. The Permittee must obtain 24-hour composite samples for the analysis of acid and base/neutral extractable compounds and metals. The Permittee must collect samples for the analysis of volatile organic compounds and samples must be collected using grab sampling techniques at equal intervals for a total of four grab samples per day.

   The laboratory may run a single analysis for volatile pollutants (using GC/MS procedures approved by 40 CFR 136) for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than 1 ml of each grab included in the composite.

   Unless otherwise indicated, all reported test data for metals must represent the total amount of the constituent present in all phases, whether solid, suspended, or dissolved, elemental or combined including all oxidation states.

   The Permittee must handle, prepare, and analyze all wastewater samples taken for GC/MS analysis using procedures approved by 40 CFR 136.

2. The Permittee must collect a sludge sample concurrently with a wastewater sample as a single grab sample of residual sludge. Sampling and analysis must be performed using procedures approved by 40 CFR 136 unless the Permittee requests an alternate method and Ecology has approved.

3. The Permittee must take Cyanide, phenols, and oils as grab samples. Oils must be hexane soluble or equivalent, and should be measured in the influent and effluent only.

4. In addition to quantifying pH, oil and grease, and all priority pollutants, the Permittee must make a reasonable attempt to identify all other substances and quantify all pollutants shown to be present by gas chromatograph/mass spectrometer (GC/MS) analysis using procedures approved by 40 CFR 136. The Permittee should attempt to make determinations of pollutants for each fraction, which produces identifiable spectra on total ion plots (reconstructed gas chromatograms). The Permittee should attempt to make determinations from all peaks with responses 5% or greater than the nearest internal standard. The 5% value is based on internal standard concentrations of 30 μg/l, and must be adjusted downward if higher internal standard concentrations are used or adjusted upward if lower internal standard concentrations are used. The Permittee may express results for non-substituted aliphatic compounds as total hydrocarbon content. The Permittee must use a laboratory whose computer data processing programs are capable of comparing sample mass spectra to a computerized library of mass spectra, with visual confirmation by an experienced analyst. For all detected substances which are determined to be pollutants, the Permittee must conduct additional sampling and appropriate testing to determine concentration and variability, and to evaluate trends.

C. Reporting of Monitoring Results

The Permittee must include a summary of monitoring results in the Annual Pretreatment Report.

D. Local Limit Development

As sufficient data become available, the Permittee must, in consultation with Ecology, reevaluate their local limits in order to prevent pass through or interference. If Ecology determines that any pollutant present causes pass through or interference, or exceeds established sludge standards, the Permittee must establish new local limits or revise existing local limits as required by 40 CFR 403.5. Ecology may also require the Permittee to revise or establish local limits for any pollutant discharged from the POTW that has a reasonable potential to exceed the water quality standards, sediment standards, or established effluent limits, or causes whole effluent toxicity. Ecology makes this determination in the form of an Administrative Order.

Ecology may modify this permit to incorporate additional requirements relating to the establishment and enforcement of local limits for pollutants of concern. Any permit modification is subject to formal due process procedures under state and federal law and regulation.

E. Source Tracking Characterization

In order to more fully characterize industrial discharges, the Permittee must conduct a pollutant analysis for metals, cyanide, phenols, volatile compounds, acid compounds, and base/neutral compounds, as described in Appendix A, of at least one industry in each of the metal-finishing/electroplating, centralized waste treatment, and food processing categories. The results of the analysis must be included with the permit renewal application.

S7. RESIDUAL SOLIDS

Residual solids include screenings, grit, scum, sludge (primary sludge and waste activated sludge), and other solid waste. The Permittee shall store and handle all residual solids in such a manner so as to prevent their entry into state ground or surface waters. The Permittee shall not discharge leachate from residual solids to state surface or ground water.

S8. APPLICATION FOR PERMIT RENEWAL

The Permittee must submit an application for renewal of this permit by June 30, 2013.

S9. ENGINEERING DOCUMENTS

In the event that non-delegated engineering reports, facility plans, or plans and specifications are developed during this permit cycle for the West Point WWTP or CSO Treatment Plants, the following elements apply.

A. The Permittee must prepare and submit two copies of an approvable engineering report or facility plan in accordance with Chapter 173-240 WAC to Ecology for review and approval.

B. The report must contain any appropriate requirements as described in *Water Reclamation and Reuse Standards* (Washington State Department of Ecology and Department of Health Publication No. 97-23, 1997). As required by RCW 90.48.112, the report must address the feasibility of using reclaimed water as defined in RCW 90.46.010.

C. The Permittee must prepare and submit two copies of approvable plans and specifications to Ecology for review and approval in accordance with Chapter 173-240 WAC.

D. Prior to the start of construction, the Permittee must submit to Ecology a quality assurance plan as required by Chapter 173-240 WAC.

S10. COMPLIANCE SCHEDULE

The County must evaluate options in addressing West Point WWTP's effluent disinfection failures, including an alternative to replace the gas chlorine system with a sodium hypochlorite system or other non-gas chlorine system. The evaluation, in the form of a technical memorandum, should evaluate options from the perspectives of permit compliance, reliability, safety, economics, and ease of operations and maintenance. The evaluation should select a preferred alternative and include a schedule for implementation.

Activity	Date
Submit Effluent Disinfection Evaluation to Ecology for review and approval	December 1, 2009
Begin to implement recommended alternative	December 1, 2010

S11. SPILL PLAN

The Permittee must:

1. Submit to Ecology an update to the existing Spill Control Plan by September 30, 2009.
2. Review the plan at least annually and update the Spill Plan as needed.
3. Send changes to the plan to Ecology.
4. Follow the plan and any supplements throughout the term of the permit.

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on site, which when spilled, or otherwise released into the environment, designate as dangerous waste (DW) or extremely hazardous waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on site which may become pollutants or cause pollution upon reaching state's waters.
2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies which meet the intent of this section.

S12. RECEIVING WATER CHARACTERIZATION

In the vicinity of the West Point WWTP outfall, the Permittee must provide data via ambient monitoring stations or collect receiving water information via field sampling necessary to determine if the effluent has a reasonable potential to cause a violation of the water quality standards. If reasonable potential exists Ecology will use this information to calculate effluent limits. Field sampling will be required where ambient monitoring station data does not exist.

For field sampling activities, the Permittee must:

A. Submit a sampling and quality assurance plan for Ecology review and approval by June 30, 2010.

B. Prepare the quality assurance plan (QAPP) in accordance with the guidelines given in *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*, Ecology Publication 04-03-030. This document is available at http://www.ecy.wa.gov/programs/eap/qa/docs/QAPPtool/Mod3%20Guidelines/GuidelinesforPreparingQAPPS.pdf

C. Locate the receiving water sampling locations outside the zone of influence of the effluent.

D. Locate the sample stations with GPS.

E. Time the sampling during a spring tide.

F. Follow the clean sampling techniques (*Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, EPA Publication No. 821-R-95-034, April 1995).

G. Collect at least ten receiving water samples and analyze the samples for total suspended solids, dissolved oxygen, temperature, pH, fecal coliform bacteria, and salinity.

H. In addition, analyze the samples for both the total and dissolved fractions for the following metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

I. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A or as approved in the QAPP.

J. Submit the results of the study to Ecology by June 30, 2013.

Any subsequent sampling and analysis must also meet these requirements. The Permittee may conduct a cooperative receiving water study with other NPDES Permittees discharging in the same vicinity.

S13. SEDIMENT MONITORING

A. Sediment Sampling and Analysis Plan

The Permittee is required to sample and analyze sediments in the vicinity of West Point WWTP's outfall.

The Permittee must submit to Ecology for review and approval a Sediment Sampling and Analysis Plan for sediment monitoring no later than July 1, 2010. The purpose of the plan is to characterize sediment quality in the vicinity of the Permittee's discharge

location at West Point. The Permittee must follow the guidance provided in the *Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan* (Ecology, 2008).

B. Sediment Data Report

Following Ecology approval of the Sediment Sampling and Analysis Plan for the West Point WWTP, the Permittee must collect and analyze sediments. The Permittee must submit to Ecology a Sediment Data Report containing the results of the sediment sampling and analysis no later than 12 months after Ecology approval of the sediment sampling and analysis plan or within three years after permit effective date (no later than December 31, 2011). The Sediment Data Report must conform to the approved Sampling and Analysis Plan.

The Sediment Data Report must also include electronic copies of the sediment chemical and biological data formatted according to Ecology's Environmental Information Management (EIM) System template available at the link below.
http://www.ecy.wa.gov/programs/tcp/smu/eim/myEIM_hp.htm

C. Source of Sediment Toxicity Study

If the sediment evaluation shows toxicity at any station, the Permittee must perform additional testing to investigate the source of sediment toxicity. This testing may include but is not limited to: toxicity identification procedures, characterization of the whole effluent and particulate matter in the effluent. Toxicity investigations must commence within 30 days of receiving sediment bioassay results that do not meet the Sediment Management Standards SQS criteria.

The Permittee must submit to Ecology the results of the sediment toxicity investigation within three months of testing.

S14. OUTFALL EVALUATION (WEST POINT WWTP)

The Permittee must inspect, once during the life of this permit, the submerged portion of the outfall line and diffuser to document its integrity and continued function. If conditions allow for a photographic verification, the Permittee must include such verification in the report. With the NPDES Permit renewal application, the Permittee must submit the inspection report to Ecology.

S15. ACUTE TOXICITY

A. Testing When There Is No Permit Limit for Acute Toxicity

The Permittee must:

1. Conduct acute toxicity testing on final effluent during January 2012 and July 2012.

2. Submit the results to Ecology with the permit renewal application.

3. Conduct acute toxicity testing on a series of at least five concentrations of effluent, including the acute critical effluent concentration (ACEC), 100% effluent, and a control. The ACEC equals 3.6% effluent (equals 1 divided by the acute dilution factor of 28 times 100.)

4. Use each of the following species and protocols for each acute toxicity test:

Acute Toxicity Tests	Species	Method
Daphnid 48-hour static test	*Ceriodaphnia dubia*, *Daphnia pulex*, or *Daphnia magna*	EPA-821-R-02-012
Fathead Minnow 96-hour static-renewal test	*Pimephales promelas*	EPA-821-R-02-012

B. Sampling and Reporting Requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data in electronic format for entry into Ecology's database, then the Permittee must send the data to Ecology along with the test report, bench sheets, and reference toxicant results.

2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Subsection C and the Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection A or pristine natural water of sufficient quality for good control performance.

6. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.

S16. CHRONIC TOXICITY

A. Testing When There Is No Permit Limit for Chronic Toxicity

The Permittee must:

1. Conduct chronic toxicity testing on final effluent during March 2012 and October 2012.

2. Submit the results to Ecology with the permit renewal application.

3. Conduct chronic toxicity testing on a series of at least five concentrations of effluent and a control. This series of dilutions must include the acute critical effluent concentration (ACEC) and the chronic effluent concentration (CCEC). The ACEC equals 3.6% effluent. The CCEC equals 0.55% effluent.

4. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Saltwater Chronic Test	Species	Method
Topsmelt survival and growth	*Atherinops affinis*	EPA/600/R-95/136
Mysid shrimp survival and growth	*Mysidopsis bahia/ Americamysis bahia*	EPA-821-R-02-014

B. Sampling and Reporting Requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data in electronic format for entry into Ecology's database, then the Permittee must send the data to Ecology along with the test report, bench sheets, and reference toxicant results.

2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in subsection C. and the Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection C or pristine natural water of sufficient quality for good control performance.

6. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.

S17. WET WEATHER OPERATION

CSO-related bypass of the secondary treatment portion of the West Point WWTP is authorized when the instantaneous flow rate to the WWTP exceeds 300 MGD as a result of precipitation events. Bypasses that occur when the instantaneous flow rate is less than 300 MGD are not authorized under this condition and are subject to the bypass provisions as stated in S5.F of the permit. In the event of a CSO-related bypass authorized under this condition, the Permittee must minimize the discharge of pollutants to the environment. At a minimum, CSO-related bypass flows must receive solids and floatables removal, primary clarification, and disinfection. The final discharge must at all times meet the effluent limits of this permit as listed in S1.

The Permittee must maintain records of all CSO-related bypasses at the treatment plant. These records must document the date, duration, and volume of each bypass event, and the magnitude of the precipitation event. The records must also indicate the effluent flow rate at the time when bypassing is initiated. All occurrences of bypassing must be reported on a monthly and annual basis. The monthly report must include the above information and must be included in narrative form with the discharge monitoring report. The annual report must include all of the above information in summary format and should be reported in the annual CSO report per S18.B.

S18. COMBINED SEWER OVERFLOWS

A. Discharge Locations

The following list of combined sewer overflows (CSOs) represents occasional point sources of pollutants as a result of precipitation events. The law prohibits discharges from these sites except as a result of precipitation events. This permit does not authorize a discharge from a CSO that causes adverse impacts that threaten characteristic uses of the receiving water as identified in the water quality standards, Chapter 173-201A WAC.

Discharge No.	Facility Name	Receiving Water	Latitude	Longitude
003	Ballard Siphon Regulator via Seattle Storm Drain	Lake Washington Ship Canal	47 39' 50.096" N	-122 22' 56.400" W
004	East Ballard (AKA 11th Ave NW)	Lake Washington Ship Canal	47 39' 34.169" N	-122 22' 14.787" W
006	Magnolia Overflow	Elliott Bay/Puget Sound	47 37' 48.663" N	-122 23' 56.476" W
007	Canal Street Overflow	Lake Washington Ship Canal	47 39' 6.683" N	-122 21' 29.208" W
008	3rd Ave W and Ewing St.	Lake Washington Ship Canal	47 39' 7.503" N	-122 21' 36.187" W
009	Dexter Ave Regulator	Lake Union	47 37' 56.298" N	-122 20' 19.506" W
011	E Pine St. Pump Station Emergency Overflow	Lake Washington	47 36' 53.732" N	-122 16' 49.095" W
012	Belvoir Pump Station Emergency Overflow	Lake Washington	47 39' 24.111" N	-122 17' 15.321" W
013	Martin Luther King Way Trunkline Overflow	Lake Washington via storm drain	47 31' 23.827" N	-122 15' 46.619" W
014	Montlake Overflow	Lake Washington Ship Canal	47 38' 49.597" N	-122 18' 17.498" W
015	University Regulator	Lake Washington Ship Canal	47 38' 56.299" N	-122 18' 40.281" W
018	Matthews Park Pump Station Emergency Overflows	Lake Washington	47 41' 50.85" N	-122 16' 21.54 W
027b	Elliot West CSO Treatment Facility	Elliott Bay	47 37' 3.108" N	-122 21' 42.797" W
027a	Denny Way Regulator	Elliott Bay	47 37' 5.302" N	-122 21' 38.920" W
028	King Street Regulator	Elliott Bay	47 35' 56.411" N	-122 20' 14.730" W
029	Connecticut St. Regulator (AKA Kingdome)	Elliott Bay	47 35' 33.114" N	-122 20' 31.581" W
030	Lander St. Regulator	Elliott Bay	47 34' 53.316" N	-122 20' 33.320" W
031	Hanford #1 Overflow	Duwamish River Via Diagonal Storm Drain	47 33' 47.187" N	-122 20' 43.135" W
032	Hanford #2 Regulator	Duwamish River - East Waterway	47 34' 38.004" N	-122 20' 34.009" W
033	Rainier Ave Pump Station	Lake Washington	47 34' 16.946" N	-122 16' 31.909" W
034	E. Duwamish Pump Station	Duwamish River	47 33' 47.605" N	-122 20' 53.720" W
035	W. Duwamish Pump Station	Duwamish River	47 33' 46.748" N	-122 20' 42.979" W
036	Chelan Ave Regulator	West Waterway of Duwamish River	47 34' 25.201" N	-122 21' 28.004" W
037	Harbor Avenue Regulator	Duwamish River into Elliott Bay	47 34' 25.341" N	-122 21' 40.174" W
038	Terminal 115 Overflow	Duwamish River	47 32' 53.737" N	-122 20' 25.810" W
039	Michigan Regulator (AKA S. Michigan Regulator)	Duwamish River	47 32' 36.709" N	-122 20' 5.880" W
040	8th Ave South Regulator (West Marginal Way Pump Station)	Duwamish River	47 32' 1.131" N	-122 19' 21.501" W
041	Brandon Street Regulator	Duwamish River	47 33' 16.781" N	-122 20' 26.996" W

Discharge No.	Facility Name	Receiving Water	Latitude	Longitude
042	West Michigan Regulator (SW Michigan St regulator)	Duwamish River	47 32' 29.621" N	-122 20' 5.978" W
043	East Marginal Pump Station	Duwamish River	47 32' 13.373" N	-122 19' 6.563" W
044	Norfolk Outfall and Henderson/MLK CSO Treatment Facility	Duwamish River	47 30' 42.988" N	-122 17' 50.480" W
045	Henderson Pump Station	Lake Washington	47 31' 23.827" N	-122 15' 46.619" W
046	Carkeek CSO Treatment Facility Outfall	Puget Sound	47 42' 45.349" N	-122 23' 16.805" W
048b	North Beach Pump Station (inlet structure)	Puget Sound	47 42' 7.710" N	-122 23' 26.735" W
048a	North Beach Pump Station (wet well)	Puget Sound	47 42' 14.424" N	-122 23' 33.229" W
049	30th Avenue NE Pump Station	Lake Washington	47 39' 24.111" N	-122 17' 15.321" W
051	Alki CSO Treatment Facility Outfall	Puget Sound	47 34' 13.017" N	-122 25' 20.801" W
052	53rd Avenue SW Pump Station	Puget Sound	47 35' 5.275" N	-122 24' 9.186" W
054	63rd Avenue SW Pump Station	Puget Sound	47 34' 12.059" N	-122 24' 58.682" W
055	SW Alaska Street Overflow	Puget Sound	47 33' 33.992" N	-122 24' 25.010" W
056	Murray Street Pump Station	Puget Sound	47 32' 24.991" N	-122 24' 0.009" W
057	Barton Street Pump Station	Puget Sound	47 31' 25.991" N	-122 23' 47.014" W

B. Combined Sewer Overflow Reports

1. Monthly CSO Report

A monthly discharge monitoring report (DMR) and narrative summary must be submitted for each of the CSO treatment plants by the 20th of each month. In addition, a separate report must be submitted and include an event-based summary of discharge volume, duration, and precipitation for all CSO discharge event(s) that occurred during the reporting period.

2. Annual CSO Report

The Permittee must submit an annual CSO Report to Ecology for review and approval by July 31st of each year. The annual CSO Report must cover the previous calendar year. The report must comply with the requirements of WAC 173-245-090(1) and must include documentation of compliance with the Nine Minimum Controls for CSOs described in Section S18.G.

In the Annual CSO Reports, the Permittee must include a summary of the number of untreated discharge events per outfall on a 20-year moving average, calculated once annually. The Permittee must determine which of the permitted CSO outfalls can be categorized as meeting the "greatest reasonable reduction" which means control of each CSO such that an average of one untreated discharge may occur per year. The Permittee

must determine whether a CSO outfall meets this regulatory requirement based on historical long-term discharge data (total of 20 years – past and present data), modeling, or other reasonable methods as approved by Ecology. A listing of CSO outfalls which have been identified by the Permittee as meeting this regulatory requirement must be included in the CSO Annual Reports.

At the same time of the annual CSO Report submission, the Permittee must also submit an electronic template file that includes event-based reporting for all CSO discharges for the reporting period. Ecology will provide the electronic template file to the Permittee.

C. Combined Sewer Overflow Reduction Plan Amendment

The Permittee must submit an amendment of its CSO Reduction Plan to Ecology for review and approval with the application for permit renewal. The amendment must comply with the requirements of WAC 173-245-090(2).

Similar to the Annual CSO Reports, the CSO Reduction Plan Amendment must contain information describing which of the permitted CSO outfalls can be categorized as meeting the "greatest reasonable reduction" which means control of each CSO such that an average of one untreated discharge may occur per year. The Permittee must determine whether a CSO outfall meets this regulatory requirement based on historical long-term discharge data (20 years), modeling, or other reasonable methods as approved by Ecology. A listing of CSO outfalls which have been identified by the Permittee as meeting this regulatory requirement must be included in the CSO Reduction Plan Amendment.

D. Flow and Solids Loading Assessment

1. The Permittee must conduct an assessment of their influent flow and solids loading for each of the CSO treatment facilities to include Alki, Carkeek, Elliott West, and MLK/Henderson, and submit a report to Ecology with the next permit application.

2. The report must contain all required sampling results and analytical data. The report must include information regarding compliance or noncompliance with all permit effluent limits and monitoring requirements.

3. This report should be similar to the annual CSO report, but the reported data should cover the entire permit cycle.

E. Compliance Schedule

In order to achieve the greatest reasonable reduction of combined sewer overflows at the earliest possible date, the Permittee must complete the following elements of the approved combined sewer overflow reduction plan.

Activity	Date
Complete and submit for approval, a Facilities Plan for the Puget Sound Beaches Project (South Magnolia, North Beach, Barton Street, and Murray Avenue)	December 31, 2010
Complete and submit for review and approval final Plans & Specifications for the Puget Sound Beach projects (South Magnolia, North Beach, Barton Street, and Murray Avenue).	December 31, 2012
Begin construction on the Puget Sound Beach projects (South Magnolia, North Beach, Barton Street, and Murray Avenue).	December 31, 2013

F. Additional CSO Monitoring

In addition to the permit application requirements for pollutant sampling at the MLK/Henderson CSO Treatment Plant, the Permittee must sample the first 4 discharge events for pollutants, as defined in S2.A.5.

G. Engineering Reports and Plans and Specifications for CSO Reduction Projects

The Permittee must submit to the Department an engineering report and plans and specifications for each specific CSO reduction construction project. Engineering documents associated with the plan must meet the requirements of WAC 173-240, and be approved by the Department prior to any construction. The report must specify any contracts, ordinances, methods of financing, or any other arrangements necessary to achieve this objective. In addition, the report must identify the potential hydraulic impact(s) of the project on downstream County-owned wastewater conveyance and treatment facilities as well as any impact(s) to the City of Seattle's conveyance system. The report shall describe how a project will achieve the performance standard, as described in S18.K.1.

Prior to the start of construction, the Permittee must submit to Ecology a quality assurance plan as required by Chapter 173-240 WAC.

H. Nine Minimum Controls

In accordance with Chapter 173-245 WAC and US EPA CSO control policy (59 FR 18688), the Permittee must implement and document the following nine minimum controls (NMC) for CSOs. Compliance with the NMC must be documented in the annual CSO Annual Report as required in S18.B.2.

The Permittee must comply with the following technology-based requirements. The Permittee must:

1. Implement proper operation and maintenance programs for the sewer system and all CSO outfalls to reduce the magnitude, frequency, and duration of CSOs. The program must consider regular sewer inspections; sewer, catch basin, and regulator cleaning; equipment and sewer collection system repair or replacement, where necessary; and disconnection of illegal connections.

2. Implement procedures that will maximize use of the collection system for wastewater storage that can be accommodated by the storage capacity of the collection system in order to reduce the magnitude, frequency, and duration of CSOs.

3. Review and modify, as appropriate, its existing pretreatment program to minimize CSO impacts from the discharges from nondomestic users.

4. Operate the POTW treatment plant at maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency, and duration of CSOs. The Permittee must deliver all flows to the treatment plant within the constraints of the treatment capacity of the POTW.

5. Dry weather overflows from CSO outfalls are prohibited. The Permittee must report each dry weather overflow to the permitting authority as soon as it becomes aware of the overflow. When it detects a dry weather overflow, the Permittee must begin corrective action immediately and inspect the dry weather overflow each subsequent day until it has eliminated the overflow.

6. Implement measures to control solid and floatable materials in CSOs.

7. Implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters.

8. Implement a public notification process to inform the citizens of when and where CSOs occur. The process must include (a) mechanism to alert persons of the occurrence of CSOs and (b) a system to determine the nature and duration of conditions that are potentially harmful for users of receiving waters due to CSOs.

9. Monitor CSO outfalls to characterize CSO impacts and the efficacy of CSO controls. This must include collection of data that it will use to document the existing baseline conditions, evaluate the efficacy of the technology-based controls, and determine the baseline conditions upon which it will base the long-term control plan. This data must include:

    a. Characteristics of the combined sewer system including the population served by the combined portion of the system and locations of all CSO outfalls in the CSS.

    b. Total number of CSO events and the frequency and duration of CSOs for a representative number of events.

    c. Locations and designated uses of receiving water bodies.

    d. Water quality data for receiving water bodies.

    e. Water quality impacts directly related to CSO (for example, beach closing, floatables, wash-up episodes, fish kills).

I. Receiving Water Characterization

In the vicinity of each CSO Treatment Plant Outfall (Alki, Carkeek, Elliott West, and MLK/Henderson), the Permittee must provide ambient monitoring data or collect receiving water information via field sampling activities necessary to determine if the effluent has a reasonable potential to cause a violation of the water quality standards. If reasonable potential exists, Ecology will use this information to calculate effluent limits.

For field sampling activities, the Permittee must:

1. Submit a sampling and quality assurance plan for Ecology review and approval by June 30, 2010.

2. Prepare the quality assurance plan (QAPP) in accordance with the guidelines given in *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*, Ecology Publication 04-03-030. This document is available at http://www.ecy.wa.gov/programs/eap/qa/docs/QAPPtool/Mod3%20Guidelines/GuidelinesforPreparingQAPPS.pdf .

3. Locate the receiving water sampling locations outside the zone of influence of the effluent.

4. Locate the sample stations with GPS.

5. Time the sampling during a spring tide.

6. Follow the clean sampling techniques (*Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, EPA Publication No. 821-R-95-034, April 1995).

7. Collect at least ten receiving water samples around each outfall and analyze the samples for total suspended solids, dissolved oxygen, temperature, pH, fecal coliform bacteria, and salinity.

8. In addition, analyze the samples for both the total and dissolved fractions for the following metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

9. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A or as approved in the study QAPP.

10. Submit the results of the study to Ecology by June 30, 2013.

    Any subsequent sampling and analysis must also meet these requirements. The Permittee may conduct a cooperative receiving water study with other NPDES Permittees discharging in the same vicinity.

J. Sediment Quality Summary at CSOs

1. Sediment Quality Summary

The Permittee must submit to Ecology for review and approval a Comprehensive Sediment Quality Summary Report for all CSO discharge locations (CSO treatment plant outfalls and all other CSO outfalls) no later than December 31, 2009. The purpose of this report is to provide information for an assessment, based on existing information, of the potential for sediment impacts from CSO discharges and provide a basis for determining data gaps. This report must provide a summary of all available information on the site history, quantity and quality of the discharges, receiving water characteristics, and current and past sediment quality near the CSO outfalls. The report must also include status of sediment cleanup sites and monitoring plans. An annotated outline and list of references for the report will be submitted to Ecology for review and approval by September 1, 2009.

All existing sediment data near the CSO discharge locations, which has not already been submitted to Ecology, must be submitted no later than September 1, 2009. Data which have already been SEDQUAL-formatted for entry into Ecology's SEDQUAL database, may be submitted in the SEDQUAL format. Data not previously submitted and not yet formatted and future data must be formatted in the EIM format.

After Ecology reviews the data and report of existing information, sediment monitoring at CSO locations may be required during this permit cycle to address data gaps and evaluate compliance with the sediment management standards.

2. Sediment Sampling and Analysis Plan

Based on the review of the Sediment Quality Evaluation, Ecology may require the Permittee to sample and analyze sediments in the vicinity of CSO outfall(s).

If required, the Permittee must submit to Ecology for review and approval a Sediment Sampling and Analysis Plan for sediment monitoring no later than December 31, 2010. The purpose of the plan is to characterize sediment quality in the vicinity of the Permittee's CSO discharge outfall(s). The Permittee must follow the guidance provided in the *Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan* (Ecology, 2008).

3. Sediment Data Report

Following Ecology approval of the Sediment Sampling and Analysis Plan for the CSO outfalls, the Permittee must collect and analyze sediments in the summer of 2011 or 2012. The Permittee must submit to Ecology a Sediment Data Report containing the results of the sediment sampling and analysis no later than January 1, 2013. The Sediment Data Report must conform to the approved Sampling and Analysis Plan.

The Sediment Data Report must also include electronic copies of the sediment chemical and biological data formatted according to Ecology's Environmental Information Management (EIM) System template available at the link below. http://www.ecy.wa.gov/programs/tcp/smu/eim/myEIM_hp.htm

K. Requirements for Controlled Combined Sewer Overflows

1. Performance Standard for Controlled CSOs

A performance standard will apply to all CSO outfalls which have been identified by the Permittee in the CSO Reduction Plan Amendment as meeting the "greatest reasonable reduction." The performance standard is derived from the State regulatory requirements as specified in WAC 173-245-022(22). The performance standard for controlled CSOs is not more than one discharge event per year on average. Compliance with the performance standard will be based on a 20-year moving averaging period, including past years and the current year. The Permittee must report the average number of discharge events per controlled outfall per year based on a 20-year moving average to be reported in the annual report per S18.B.2. Compliance with the performance standard is determined annually.

2. CSOs Identified as Controlled

The following table lists CSOs that the County has deemed to be under control as reported in King County's 2008 CSO Control Plan Update. Ecology views the following list of CSO outfalls as having met the requirement of greatest reasonable reduction as defined in Chapter 173-245 WAC. Frequency of overflow events at these CSO outfalls, as a result of precipitation events, must meet the performance standard.

The Permittee must report the number of overflow events per year during this permit term from the below-listed CSO outfalls in the Annual CSO Report and the CSO Reduction Plan Amendment required in Sections S18.B.2 and S18.C, respectively.

CSO Discharge No	Location/Name	Receiving Water	Latitude	Longitude
001	West Point Treatment Plant (CSO)	Puget Sound	47 39' 38.565" N	-122 26' 54.162" W
051	Alki CSO Treatment Facility Outfall	Puget Sound	47 34' 13.017" N	-122 25' 20.801" W
046	Carkeek CSO Treatment Facility Outfall	Puget Sound	47 42' 45.349" N	-122 23' 16.805" W
027b	Elliot West CSO Treatment Facility	Elliott Bay	47 37' 3.108" N	-122 21' 42.797" W
044	Norfolk Outfall and Henderson/MLK CSO Treatment Facility	Duwamish River	47 30' 42.988" N	-122 17' 50.480" W
049	30th Avenue NE Pump Station	Lake Washington	47 39' 24.111" N	-122 17' 15.321" W
052	53rd Avenue SW Pump Station	Puget Sound	47 35' 5.275" N	-122 24' 9.186" W

CSO Discharge No	Location/Name	Receiving Water	Latitude	Longitude
054	63rd Avenue SW Pump Station	Puget Sound	47 34' 12.059" N	-122 24' 58.682" W
040	8th Ave South Regulator (West Marginal Way Pump Station)	Duwamish River	47 32' 1.131" N	-122 19' 21.501" W
055	SW Alaska Street Overflow	Puget Sound	47 33' 33.992" N	-122 24' 25.010" W
012	Belvoir Pump Station Emergency Overflow	Lake Washington	47 39' 24.111" N	-122 17' 15.321" W
007	Canal Street Overflow	Lake Washington Ship Canal	47 39' 6.683" N	-122 21' 29.208" W
034	E. Duwamish Pump Station	Duwamish River	47 33' 47.605" N	-122 20' 53.720" W
035	W. Duwamish Pump Station	Duwamish River	47 33' 46.748" N	-122 20' 42.979" W
043	East Marginal Pump Station	Duwamish River	47 32' 13.373" N	-122 19' 6.563" W
018	Matthews Park Pump Station Emergency Overflows	Lake Washington	47 41' 50.85" N	-122 16' 21.54 W
011	E Pine St. Pump Station Emergency Overflow	Lake Washington	47 36' 53.732" N	-122 16' 49.095" W
033	Rainier Ave Pump Station	Lake Washington	47 34' 16.946" N	-122 16' 31.909" W

3. Post Construction Monitoring Program

The Permittee must implement a post construction compliance monitoring program adequate to verify compliance with water quality standards and protection of designated uses as well as ascertain the effectiveness of CSO controls. This water quality compliance monitoring program must include a plan that details the monitoring protocols to be followed, including the necessary effluent and ambient monitoring and, where appropriate, other monitoring protocols such as biological assessments, whole effluent toxicity testing, and sediment sampling. The plan must be reviewed and approved by Ecology.

a. CSO Post Construction Monitoring Plan

The Permittee must submit to Ecology for review and approval a CSO Post Construction Monitoring Plan no later than July 1, 2010. The plan should include a discussion of controlled outfalls that may be influenced by other County or City of Seattle uncontrolled outfalls that may adversely influence or interfere with the water quality assessment of controlled outfalls. The Permittee must provide adequate justification for not performing post construction monitoring for controlled CSO outfalls where water quality may be impacted by nearby outfalls.

b. CSO Post Construction Monitoring Data Report

Following Ecology approval of the CSO Post Construction Monitoring Plan, the Permittee must implement the plan. The Permittee must submit to Ecology a data report containing the results of the sampling and analysis no later than August 31, 2012. The data report must conform to the approved CSO Post Construction Monitoring Plan.

S19. NITROGEN REDUCTION STUDY

Ecology has a study underway to inform on the impacts of nutrient-laden discharges to Puget Sound. The South Sound Dissolved Oxygen Study along with the Puget Sound Hydrodynamic Modeling is expected to be completed by December 2010.

Upon completion of the South Puget Sound Dissolved Oxygen Study and Hydrodynamic Modeling, Ecology will determine whether the discharge from King County's West Point WWTP is significantly and quantifiably impacting dissolved oxygen levels in South Puget Sound. If Ecology concludes that there is a significant and quantifiable adverse impact from the West Point WWTP discharge on dissolved oxygen in South Puget Sound, then King County will be required to submit a Nitrogen Reduction Study which shall evaluate feasible alternatives to reduce nitrogen contributions from the West Point WWTP discharge. Ecology will specify the requirements of the submittal in an Administrative Order. If required, the Nitrogen Reduction Study is due to Ecology by June 30, 2013.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

A. All applications, reports, or information submitted to Ecology must be signed and certified.

1. In the case of corporations, by a responsible corporate officer.

   For the purpose of this section, a responsible corporate officer means:

   (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

   (ii) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. In the case of a partnership, by a general partner.

3. In the case of sole proprietorship, by the proprietor.

4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity must be submitted by the public entity.

B. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to authorization. If an authorization under paragraph B.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:

1. Violation of any permit term or condition.

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.

3. A material change in quantity or type of waste disposal.

4. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.

5. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.

6. Nonpayment of fees assessed pursuant to RCW 90.48.465.

7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

1. A material change in the condition of the waters of the state.

2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. When cause exists for termination for reasons listed in A1 through A7 of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

2. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, but no later than sixty (60) days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:
1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b);
2) a significant change in the nature or an increase in quantity of pollutants discharged; or
3) a significant change in the Permittee's biosolids use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit must be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

Except as provided in paragraph (B) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology at least thirty (30) days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof must be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit will incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1) an upset occurred and that the Permittee can identify the cause(s) of the upset;
2) the permitted facility was being properly operated at the time of the upset;
3) the Permittee submitted notice of the upset as required in Condition S3.E; and
4) the Permittee complied with any remedial measures required under S4.C of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment must be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G20. COMPLIANCE SCHEDULES

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen (14) days following each schedule date.

G21. CONTRACT REVIEW

The Permittee must submit to Ecology any proposed contract for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with Chapters 90.46 and 90.48 RCW. In the event that Ecology does not comment within a thirty (30)-day period, the Permittee may assume consistency and proceed with the contract.

APPENDIX A
EFFLUENT CHARACTERIZATION FOR POLLUTANTS
THIS LIST INCLUDES EPA REQUIRED POLLUTANTS (PRIORITY POLLUTANTS) AND SOME ECOLOGY PRIORITY TOXIC CHEMICALS (PBTs)

The following table with analytical levels is to be used as guidance for effluent characterization in NPDES permit applications and applications for permit renewal. The permit applications will specify the groups of compounds to be analyzed. Ecology may require additional groups to be analyzed. The table should also be used as a guide for routine effluent monitoring for pollutants specified in the permit. The objectives are to reduce the number of analytical "non-detects" in applications and monitoring reports and to measure effluent concentrations near or below criteria values where possible at a reasonable cost. If an applicant or Permittee knows that an alternate, less sensitive method (higher DL and QL) from 40 CFR Part 136 is sufficient to produce measurable results in their effluent, that method may be used for analysis.

EPA 307 (A) REF. #	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*	Lowest Criteria Values *µg/L unless specified*
	Conventionals				
	Biochemical Oxygen Demand	SM5210-B		2 mg/L	
	Chemical Oxygen Demand	SM5220-D		10 mg/L	
	Total Organic Carbon	SM5310-B/C/D		1 mg/L	
	Total Suspended Solids	SM2540-D		5 mg/L	
	Total Ammonia (as N)	SM4500-NH3- GH		0.3 mg/L	
	Flow	Calibrated device			
	Dissolved oxygen	SM4500-OC/OG		0.2 mg/L	
	Temperature (max. 7-day avg.)	Analog recorder or use micro-recording devices known as thermistors		0.2º C	
	pH	SM4500-H^+ B	N/A	N/A	
	Nonconventionals				
	Total Alkalinity	SM2320-B		5 mg/L as CaCO3	
	Bromide (24959-67-9)	SM4110 B	100	400	
	Chlorine, Total Residual	SM4500 Cl G		50.0	7.5
	Color	SM2120 B/C/E		10 color units	
	Fecal Coliform	SM 9221E	0 CFU/100mL	0 CFU/100mL	
	Fluoride (16984-48-8)	SM4500-F E/SM4110B	25	100	
	Nitrate-Nitrite (as N)	SM4500-NO3-E/F/H		100	10,000
	Nitrogen, Total Kjeldahl (as N)	SM4500-NH3 C/E/FG/SM4500-Norg-B		300	
	Ortho-Phosphate (PO_4 as P)	SM4500- PE/PF	100	100	
	Phosphorus, Total (as P)	SM4500-PE/PF	100	100	
	Oil and Grease (HEM)	1664A		5,000	
	Radioactivity	Table 1E			
	Salinity	SM2520-B		3 PSS	
	Settleable Solids	SM2540 -F		100	
	Sulfate (as mg/L SO_4)	SM4110-B		200	
	Sulfide (as mg/L S)	SM4500-S^2F/D/E/G		200	2.0
	Sulfite (as mg/L SO_3)	SM4500-SO3B		2000	
	Surfactants	SM5540 C		50	
	Total dissolved solids	SM2540 C		20 mg/L	500 mg/L[12]
	Total Hardness	SM2340B		200 as $CaCO_3$	
	Aluminum, Total (7429-90-5)	200.8	2.0	10	750

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	Barium Total (7440-39-3)	200.8	0.5	2.0	
	Boron Total (7440-42-8)	200.8	2.0	10.0	
	Cobalt, Total (7440-48-4)	200.8	0.05	0.25	
	Iron, Total (7439-89-6)	200.8	12.5	50	300
	Magnesium, Total (7439-95-4)	200.8	10	50	
	Molybdenum, Total (7439-98-7)	200.8	0.1	0.5	
	Manganese, Total (7439-96-5)	200.8	0.1	0.5	50
	Tin, Total (7440-31-5)	200.8	0.3	1.5	
	Titanium, Total (7440-32-6)	200.8	0.5	2.5	
Metals, Cyanide & Total Phenols					
114	Antimony, Total (7440-36-0)	200.8	0.3	1.0	14[5]
115	Arsenic, Total (7440-38-2)	200.8	0.1	0.5	36[7]
117	Beryllium, Total (7440-41-7)	200.8	0.1	0.5	4[8]
118	Cadmium, Total (7440-43-9)	200.8	0.05	0.25	0.37[3]
119	Chromium, Total (7440-47-3)	200.8	0.2	1.0	57.2[3]
120	Copper, Total (7440-50-8)	200.8	0.4	2.0	3.1[3]
122	Lead, Total (7439-92-1)	200.8	0.1	0.5	0.54[3]
123	Mercury, Total (7439-97-6)	1631E	0.0002	0.0005	0.012[7]
124	Nickel, Total (7440-02-0)	200.8	0.1	0.5	8.2[3]
125	Selenium, Total (7782-49-2)	200.8	1.0	1.0	5[7]
126	Silver, Total (7440-22-4)	200.8	0.04	0.2	0.32[3]
127	Thallium, Total (7440-28-0)	200.8	0.09	0.36	1.7[5]
128	Zinc, Total (7440-66-6)	200.8	0.5	2.5	32.3[3]
	Cyanide, Weak Acid Dissociable	SM4500-CN-I,E	5	10	
065	Phenols, Total	EPA 420.1		50	21000[5]
Dioxin					
129	2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16)	1613B	1.3 pg/L	5 pg/L	0.000000013[5]
Volatile Compounds					
002	Acrolein (107-02-8)	624	5	10	320/780[5]
003	Acrylonitrile (107-13-1)	624	1.0	2.0	0.059/0.66[5]
004	Benzene (71-43-2)	624	1.0	2.0	5.0[8]
018	Bis(2-Chloroethyl)ether (111-44-4)	611/625	1.0	2.0	0.031[5]
042	Bis(2-Chloroisopropyl) ether (108-60-1)	611/625	1.0	2.0	1400[5]
047	Bromoform (75-25-2)	624	1.0	2.0	4.3[5]
006	Carbon tetrachloride (108-90-7)	624/601 or SM6230B	1.0	2.0	0.25[5]
007	Chlorobenzene (108-90-7)	624	1.0	2.0	680[5]
016	Chloroethane (75-00-3)	624/601	1.0	2.0	
019	2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0	3540[10]
023	Chloroform (67-66-3)	624 or SM6210B	1.0	2.0	5.7[5]
051	Dibromochloromethane (124-48-1)	624	1.0	2.0	0.41[5]
025	1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6	2700[5]
026	1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6	400[5]
027	1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6	400[5]
028	3,3'-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0	
048	Dichlorobromomethane (75-27-4)	624	1.0	2.0	0.27[5]
013	1,1-Dichloroethane (75-34-3)	624	1.0	2.0	
010	1,2-Dichloroethane (107-06-2)	624	1.0	2.0	0.38[5]
029	1,1-Dichloroethylene (75-35-4)	624	1.0	2.0	0.057[5]
032	1,2-Dichloropropane (78-87-5)	624	1.0	2.0	3[11]
033	1,3-dichloropropylene (mixed isomers) (542-75-6)	624	1.0	2.0	10[5]

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038	Ethylbenzene (100-41-4)	624	1.0	2.0	3100[5]
046	Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0	48[5]
045	Methyl chloride (74-87-3) (Chloromethane)	624	1.0	2.0	270000[10]
044	Methylene chloride (75-09-2)	624	5.0	10.0	4.7[5]
015	1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0	0.17[5]
085	Tetrachloroethylene (127-18-4)	624	1.0	2.0	0.80[5]
086	Toulene (108-88-3)	624	1.0	2.0	6800[5]
030	1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0	700[4]
011	1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0	200[8]
014	1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0	0.6[5]
087	Trichloroethylene (79-01-6)	624	1.0	2.0	2.7[5]
088	Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0	2[5]
Acid Compounds					
024	2-Chlorophenol (95-57-8)	625	1.0	2.0	81[4]
031	2,4-Dichlorophenol (120-83-2)	625	0.5	1.0	93[5]
034	2,4-Dimethylphenol (105-67-9)	625	0.5	1.0	380[4]
060	4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	625/1625B	1.0	2.0	13.4[5]
059	2,4 dinitrophenol (51-28-5)	625	1.0	2.0	70[5]
057	2-Nitrophenol (88-75-5)	625	0.5	1.0	450[13]
058	4-nitrophenol (100-02-7)	625	0.5	1.0	600[13]
022	Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0	-
064	Pentachlorophenol (87-86-5)	625	0.5	1.0[10]	0.28[5]
065	Phenol (108-95-2)	625	2.0	4.0	21000[5]
021	2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0	2.1[5]
Base/Neutral Compounds					
001	Acenaphthene (83-32-9)	625	0.2	0.4	670[6]
077	Acenaphtylene (208-96-8)	625	0.3	0.6	132000[9]
078	Anthracene (120-12-7)	625	0.3	0.6	9600[5]
005	Benzidine (92-87-5)	625	12	24	0.00012[5]
067	Benzyl butyl phthalate (85-68-7)	625	0.3	0.6	1500
072	Benzo(*a*)anthracene (56-55-3)	625	0.3	0.6	0.0028[5]
PBT	Benzo(j)fluoranthene (205-82-3)	625	0.5	1.0	-
PBT	Benzo(r,s,t)pentaphene (189-55-9)	625	0.5	1.0	
073	Benzo(*a*)pyrene (50-32-8)	610/625	0.5	1.0	0.0028/0.031[5]
074	3,4-benzofluoranthene (Benzo(b)fluoranthene) (205-99-2)	610/625	0.8	1.6	
075	11,12-benzofluoranthene (Benzo(k)fluoranthene) (207-08-9)	610/625	0.8	1.6	0.0028/0.031[5]
079	Benzo(*ghi*)Perylene (191-24-2)	610/625	0.5	1.0	0.1[9]
043	Bis(*2-chloroethoxy)*methane (111-91-1)	625	5.3	21.2	92000[9]
018	Bis(*2-chloroethyl*)ether (111-44-4)	611/625	0.3	1.0	0.031[5]
042	Bis(*2-chloroisopropyl*)ether (108-60-1)	625	0.3	0.6	1400[5]
066	Bis(*2-ethylhexyl*)phthalate (117-81-7)	625	0.1	0.5	1.8[5]
041	4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4	180[10]

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020	2-Chloronaphthalene (91-58-7)	625	0.3	0.6	1000[6]
040	4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5	365[9]
076	Chrysene (218-01-9)	610/625	0.3	0.6	0.0028[5]
PBT	Dibenzo (a,j)acridine (224-42-0)	610M/625M	2.5	10.0	-
PBT	Dibenzo (a,h)acridine (226-36-8)	610M/625M	2.5	10.0	-
082	Dibenzo(a-*h*)anthracene (53-70-3) (1,2,5,6-dibenzanthracene)	625	0.8	1.6	2700[5]
PBT	Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0	-
PBT	Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0	
028	3,3'-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0	0.04[5]
070	Diethyl phthalate (84-66-2)	625	1.9	7.6	23000[5]
071	Dimethyl phthalate (131-11-3)	625	1.6	6.4	313000[5]
068	Di-n-butyl phthalate (84-74-2)	625	0.5	1.0	2700[5]
035	2,4-dinitrotoluene (121-14-2)	609	0.2	0.4	0.11[5]
036	2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4	6250[13]
069	Di-n-octyl phthalate (117-84-0)	625	0.3	0.6	3.1[13]
037	1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)	1625B	5.0	20	0.04[5]
039	Fluoranthene (206-44-0)	625	0.3	0.6	300[5]
080	Fluorene (86-73-7)	625	0.3	0.6	1300[5]
009	Hexachlorobenzene (118-74-1)	612/625	0.3	0.6	0.00075[5]
052	Hexachlorobutadiene (87-68-3)	625	0.5	1.0	0.44[5]
053	Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0	240[5]
012	Hexachloroethane (67-72-1)	625	0.5	1.0	1.9[5]
083	Indeno(*1,2,3-cd*)Pyrene (193-39-5)	610/625	0.5	1.0	0.0028[6]
054	Isophorone (78-59-1)	625	0.5	1.0	8.4[5]
PBT	3-Methyl cholanthrene (56-49-5)	625	2.0	8.0	
055	Naphthalene (91-20-3)	625	0.3	0.6	400[11]
056	Nitrobenzene (98-95-3)	625	0.5	1.0	17[5]
061	N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0	0.00069[5]
063	N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0	0.005[5]
062	N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0	5[5]
PBT	Perylene (198-55-0)	625	1.9	7.6	
081	Phenanthrene (85-01-8)	625	0.3	0.6	4[11]
084	Pyrene (129-00-0)	625	0.3	0.6	960[5]
008	1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6	35[6]
	Pesticides/PCBs				
089	Aldrin (309-00-2)	608	0.025	0.05	0.00013[5]
102	alpha-BHC (319-84-6)	608	0.025	0.05	0.0039[5]
103	beta-BHC (319-85-7)	608	0.025	0.05	0.014[5]
104	gamma-BHC (58-89-9)	608	0.025	0.05	0.019[5]
105	delta-BHC (319-86-8)	608	0.025	0.05	7.0[13]
091	Chlordane (57-74-9)	608	0.013	0.25	0.00057[5]
092	4,4'-DDT (50-29-3)	608	0.025	0.05	0.00059[5]
093	4,4'-DDE (72-55-9)	608	0.025	0.05[10]	0.00059[5]
094	4,4' DDD (72-54-8)	608	0.025	0.05	0.00083[5]
090	Dieldrin (60-57-1)	608	0.025	0.05	0.00014[5]
095	alpha-Endosulfan (959-98-8)	608	0.025	0.05	0.0087[5]
096	beta-Endosulfan (33213-65-9)	608	0.025	0.05	0.0087[5]
097	Endosulfan Sulfate (1031-07-8)	608	0.025	0.05	0.093[5]

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098	Endrin (72-20-8)	608	0.025	0.05	0.0023[5]
099	Endrin Aldehyde (7421-93-4)	608	0.025	0.05	0.76[5]
100	Heptachlor (76-44-8)	608	0.025	0.05	0.00021[5]
101	Heptachlor Epoxide (1024-57-3)	608	0.025	0.05	0.00010[5]
106	PCB-1242 (53469-21-9)	608	0.25	0.5	0.000170[5]
107	PCB-1254 (11097-69-1)	608	0.25	0.5	0.000170[5]
108	PCB-1221 (11104-28-2)	608	0.25	0.5	0.000170[5]
109	PCB-1232 (11141-16-5)	608	0.25	0.5	0.000170[5]
110	PCB-1248 (12672-29-6)	608	0.25	0.5	0.000170[5]
111	PCB-1260 (11096-82-5)	608	0.13	0.5	10.5[13]
112	PCB-1016 (12674-11-2)	608	0.13	0.5	0.42[13]
113	Toxaphene (8001-35-2)	608	0.24	0.5	0.00073[5]

PBT - Denotes a State of Washington priority pollutant.

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR Part 136, Appendix B.
2. Quantitation Level (QL) is equivalent to EPA's Minimum Level (ML) which is defined in 40 CFR Part 136 as the minimum level at which the entire GC/MS system must give recognizable mass spectra (background corrected) and acceptable calibration points. These levels were published as proposed in the Federal Register on March 28, 1997.
3. This criterion is dependent upon receiving water characteristics. This value is the aquatic life chronic value at a hardness of 25 mg/l.
4. EPA 822-R-03-031.
5. Human health criteria as fresh or marine – EPA National Toxic Rule.
6. Fresh water aquatic life as Acute or Chronic – EPA recommended values.
7. Aquatic life as Acute or Chronic – WAC 173-201A.
8. USEPA Drinking Water Criteria.
9. No human health-based screening levels were available for 2-chloroethylvinyl ether. This value is the surface water screening values derived by U.S. EPA Region 4 Water Management Division. These values were obtained from Water Quality Criteria documents and represent the chronic ambient water quality criteria values for the protection of aquatic life.
10. USGS 2004-5194. Pesticides Detected in Urban Streams in King County, Washington, 1998–2003.
11. Estimated effect level.
12. Chapter WAC 173-200.
13. Estimated effect level.